

**BOLLETTINO TECNICO**  
**126 DEL 15/05/2007**

**OGGETTO:**  
**GRU PM SERIE 65 SP PT**

Il presente bollettino ha lo scopo di portare a conoscenza della rete commerciale ed assistenziale tutte quelle notizie tecnico/commerciali riguardanti la nuova serie di macchine citate in oggetto.

Riteniamo che ciò possa garantire una sufficiente conoscenza preliminare sulle varie problematiche legate all'installazione della macchina sull'autocarro.

Per facilitare la consultazione abbiamo suddiviso il presente bollettino nei seguenti paragrafi:

Par.0 Premessa ..... R.01 ..... (da pag.1/1 a pag.1/1)  
Par.1 Installazione ..... R.01 ..... (da pag.1/13 a pag.13/13)  
Par.2 Impianto idraulico ... R.00 ..... (da pag.1/12 a pag.12/12)  
Par.3 Impianto elettrico .... R.00 .... (da pag.1/109 a pag.109/109)  
Par.4 Diagrammi portate ... R.00 ..... (da pag.1/12 a pag.12/12)  
Par.5 Notizie Tecniche ..... R.00 ..... (da pag.1/4 a pag.4/4)  
Par.6 Accessori ..... R.00 ..... (da pag.1/4 a pag.4/4)

R.00 = Stato di revisione del paragrafo

NB: I dati riportati in questa pubblicazione sono a titolo indicativo. L'Autogru PM si riserva di apportare in qualunque momento modifiche ai modelli descritti, sia per ragioni di natura tecnica che commerciale, inoltre non si assume responsabilità circa eventuali errori nella pubblicazione.

- Tolleranze: dimensioni  $\pm 1\%$ , pesi  $\pm 5\%$ .

Par. 0  
R. 01

**TECHNICAL INFORMATION**  
**126 OF 15/05/2007**

**SUBJECT:**  
**PM SERIE 65 SP PT**

*This service information sheet wants to inform our commercial/service network about all technical/commercial details concerning our new above mentioned crane.*

*We think this information can supply sufficient preliminary knowledge on various problems that can be linked to crane installation on truck.*

*For consultation ease purpose , we have subdivided this service information into following paragraphs:*

*Par.0 Foreword ..... R.01 ..... (page 1/1 to page 1/1)*  
*Par.1 Installation ..... R.01 . (page 1/13 to page 13/13)*  
*Par.2 Hydraulic circuits . R.00 . (page 1/12 to page 12/12)*  
*Par.3 Eletrical circuits.R.00(page 1/109 to page 109/109)*  
*Par.4 Load charts..... R.00 (page 1/12 to page 12/12)*  
*Par.5 Technicals news .. R.00 ..... (page 1/4 to page 4/4)*  
*Par.6 Accessories ..... R.00 ..... (page 1/4 to page 4/4)*

*R.00 = Paragraph revision number*

*NOTE: technical details here mentioned are indicatives. All details can be modified by AUTOGRU PM SPA for technical or commercial reasons. AUTOGRU PM SPA does not takes liability for any mistake here published.*

*- Tolerance: dimensions  $\pm 1\%$ , weights  $\pm 5\%$ .*

## 1. INSTALLAZIONE.

### 1.1 SENSO DI MONTAGGIO.

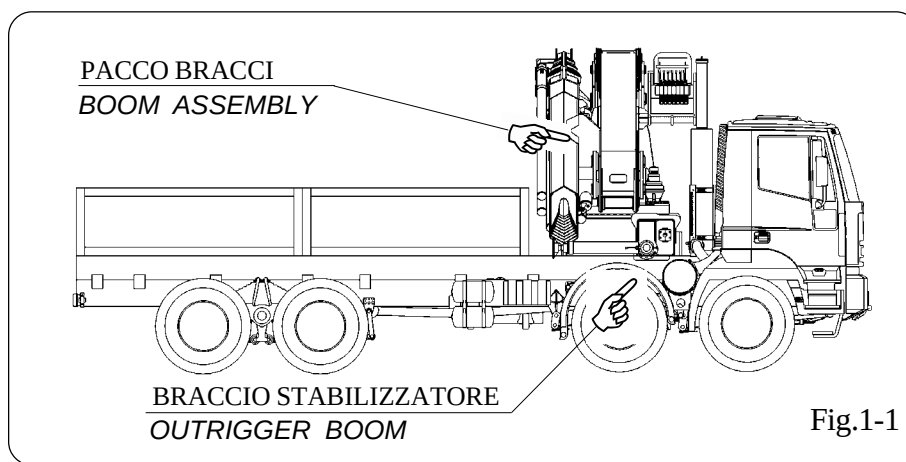
In versione standard la gru deve essere installata con gli stabilizzatori verso la cabina (il pacco bracci, quando la gru è in posizione di riposo deve essere dalla parte del cassone).

Fig.1-1

## 1. INSTALLATION

### 1.1 MOUNTING WAY

*In standard version the crane shall be installed with outriggers placed towards the truck cabin (the booms must be by truck body side when the crane is in folded position). Fig.1-1*



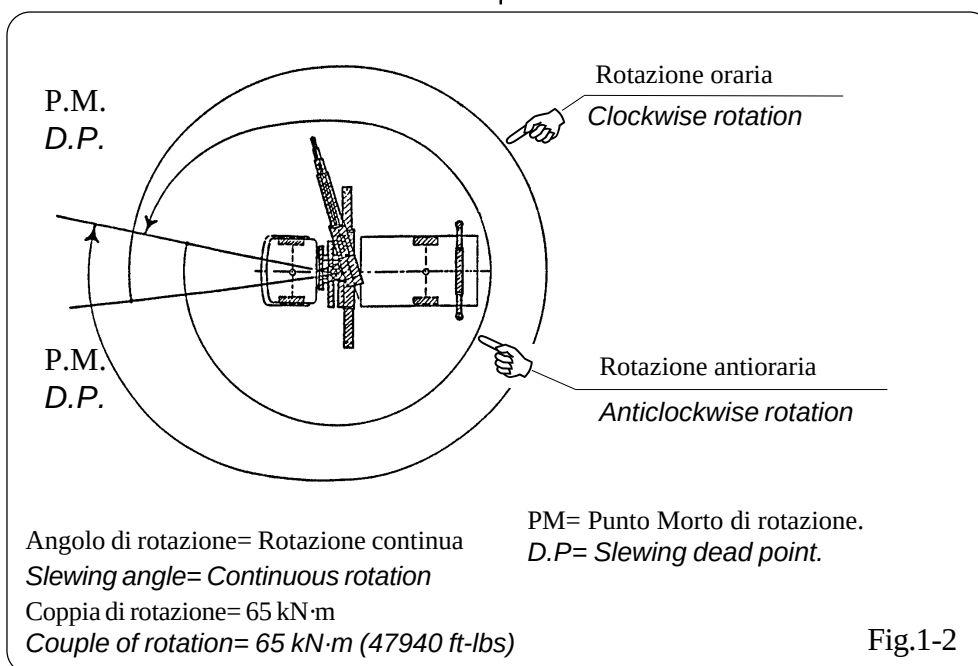
### 1.2 PUNTO MORTO

Questo modello di gru è predisposto per la rotazione continua, quindi il punto morto non è presente in nessun settore.

Fig.1-2

### 1.2 DEAD POINT

*This crane model is designed for continuous rotation, therefore there is no dead centre in this sector.*



### 1.3 PESI 65 SP PT (Kg)

### 1.3 WEIGHTS 65 SP PT (kg)

| VERSIONE<br>VERSION                                                                  |    | _24  | _26  | _28  | _29  |
|--------------------------------------------------------------------------------------|----|------|------|------|------|
| GRU STANDARD* (65 SP PT)<br>STD CRANE* (65 SP PT)                                    | kg | 6045 | 6530 | 6950 | 7145 |
| ANCORAGGIO<br>ANCHORAGE                                                              | kg | 190  | 190  | 190  | 190  |
| RIFORNIMENTO OLIO<br>OIL REFUELLING                                                  | kg | 280  | 280  | 280  | 280  |
| 1a PROLUNGA MANUALE<br>1st MANUAL EXTENSION                                          | kg | /    | /    | /    | 70   |
| 2a PROLUNGA MANUALE<br>2nd MANUAL EXTENSION                                          | kg | /    | /    | /    | 60   |
| MARTINETTI STABILIZZATORI<br>OUTRIGGERS BOOMS                                        | kg | 160  | 160  | 160  | 160  |
| STABIL. SUPPLEM.FISSI 14.00T - SI 5.0<br>EXTENSIBLE SUPPL.OUTTRIGGER 14.00T - SI 5.0 | kg | 515  | 515  | 515  | 515  |
| 1a ATTIVAZIONE GRU CON AVVOLGITUBO<br>1st CRANE ACTIVATION WITH PIPE WINDER          | kg | 115  | 115  | 115  | 80   |
| 1a+2a ATTIVAZIONE GRU CON AVVOLGITUBO<br>1st+2nd CRANE ACTIVATION WITH PIPE WINDER   | kg | 190  | 190  | 190  | 190  |
| 1a ATTIVAZIONE GRU CON RACCOGLITUBO<br>1st CRANE ACTIVATION WITH PIPE CLAMP          | kg | /    | 120  | /    | /    |
| 1a+2a ATTIVAZIONE GRU CON RACCOGLITUBO<br>1st+2nd ACTIVATION CRANE WITH CLAMP        | kg | /    | 160  | /    | /    |
| POSTO IN ALTO<br>TOP SEAT                                                            | kg | 125  | 125  | 125  | 125  |
| VERRICELLO TC3 COMPLETO DI FUNE (65m)<br>TC3 WINCH COMPLETE WITH CABLE (213ft)       | kg | 190  | 190  | 190  | 190  |
| BOZZELLO (1-TIRO)<br>PULLEY (ONE PULL LINE)                                          | kg | /    | 100  | /    | /    |
| BOZZELLO (2-TIRI)<br>PULLEY (TWO PULL LINES)                                         | kg | /    | 105  | /    | /    |
| ANTENNA J 903.20<br>J 903.20 JIB                                                     | kg | /    | 710  | /    | /    |
| ANTENNA J 904.20<br>J 904.20 JIB                                                     | kg | /    | 790  | /    | /    |
| 1° PROLUNGA MANUALE J903<br>1st MANUAL EXTENSION J903                                | kg | /    | 35   | /    | /    |
| 2° PROLUNGA MANUALE J903<br>2nd MANUAL EXTENSION J903                                | kg | /    | 25   | /    | /    |
| 3° PROLUNGA MANUALE J903<br>3rd MANUAL EXTENSION J903                                | kg | /    | 20   | /    | /    |
| 1° PROLUNGA MANUALE J904<br>1st MANUAL EXTENSION J904                                | kg | /    | 35   | /    | /    |
| 2° PROLUNGA MANUALE J904<br>2nd MANUAL EXTENSION J904                                | kg | /    | 25   | /    | /    |
| BOZZELLO (1-TIRO) ANTENNA<br>PULLEY (ONE PULL LINE) JIB                              | kg | /    | 100  | /    | /    |

\* BRACCI STABILIZZ. STANDARD - SENZA OLIO NEL SERBATOIO.

\* STANDARD OUTRIGGER BOOMS - WITHOUT OIL IN THE TANK.

### 1.3.1 PESI 65 SP PT (lbs)

### 1.3.1 WEIGHTS 65 SP PT (lbs)

| VERSIONE<br>VERSION                                                                  |     | _24   | _26   | _28   | _29   |
|--------------------------------------------------------------------------------------|-----|-------|-------|-------|-------|
| GRU STANDARD* (65 SP PT)<br>STD CRANE* (65 SP PT)                                    | lbs | 13330 | 14400 | 15320 | 15750 |
| ANCORAGGIO<br>ANCHORAGE                                                              | lbs | 420   | 420   | 420   | 420   |
| RIFORNIMENTO OLIO<br>OIL REFUELLING                                                  | lbs | 620   | 620   | 620   | 620   |
| 1a PROLUNGA MANUALE<br>1st MANUAL EXTENSION                                          | lbs | /     | /     | /     | 150   |
| 2a PROLUNGA MANUALE<br>2nd MANUAL EXTENSION                                          | lbs | /     | /     | /     | 130   |
| MARTINETTI STABILIZZATORI<br>OUTRIGGERS BOOMS                                        | lbs | 350   | 350   | 350   | 350   |
| STABIL. SUPPLEM.FISSI 14.00T - SI 5.0<br>EXTENSIBLE SUPPL.OUTTRIGGER 14.00T - SI 5.0 | lbs | 1140  | 1140  | 1140  | 1140  |
| 1a ATTIVAZIONE GRU CON AVVOLGITUBO<br>1st CRANE ACTIVATION WITH PIPE WINDER          | lbs | 250   | 250   | 250   | 180   |
| 1a+2a ATTIVAZIONE GRU CON AVVOLGITUBO<br>1st+2nd CRANE ACTIVATION WITH PIPE WINDER   | lbs | 420   | 420   | 420   | 420   |
| 1a ATTIVAZIONE GRU CON RACCOGLITUBO<br>1st CRANE ACTIVATION WITH PIPE CLAMP          | lbs | /     | 260   | /     | /     |
| 1a+2a ATTIVAZIONE GRU CON RACCOGLITUBO<br>1st+2nd ACTIVATION CRANE WITH CLAMP        | lbs | /     | 350   | /     | /     |
| POSTO IN ALTO<br>TOP SEAT                                                            | lbs | 280   | 280   | 280   | 280   |
| VERRICELLO TC3 COMPLETO DI FUNE (65m)<br>TC3 WINCH COMPLETE WITH CABLE (213'ft)      | lbs | 420   | 420   | 420   | 420   |
| BOZZELLO (1-TIRO)<br>PULLEY (ONE PULL LINE)                                          | lbs | /     | 220   | /     | /     |
| BOZZELLO (2-TIRI)<br>PULLEY (TWO PULL LINES)                                         | lbs | /     | 230   | /     | /     |
| ANTENNA J 903.20<br>J 903.20 JIB                                                     | lbs | /     | 1570  | /     | /     |
| ANTENNA J 904.20<br>J 904.20 JIB                                                     | lbs | /     | 1740  | /     | /     |
| 1° PROLUNGA MANUALE J903<br>1st MANUAL EXTENSION J903                                | lbs | /     | 80    | /     | /     |
| 2° PROLUNGA MANUALE J903<br>2nd MANUAL EXTENSION J903                                | lbs | /     | 60    | /     | /     |
| 3° PROLUNGA MANUALE J903<br>3rd MANUAL EXTENSION J903                                | lbs | /     | 40    | /     | /     |
| 1° PROLUNGA MANUALE J904<br>1st MANUAL EXTENSION J904                                | lbs | /     | 80    | /     | /     |
| 2° PROLUNGA MANUALE J904<br>2nd MANUAL EXTENSION J904                                | lbs | /     | 60    | /     | /     |
| BOZZELLO (1-TIRO) ANTENNA<br>PULLEY (ONE PULL LINE) JIB                              | lbs | /     | 220   | /     | /     |

\* BRACCI STABILIZZ. STANDARD - SENZA OLIO NEL SERBATOIO.

\* STANDARD OUTRIGGER BOOMS - WITHOUT OIL IN THE TANK.

1.4 DIMENSIONI GRU SERIE 65 SP PT

1.4 DIMENSIONS CRANE SERIE 65 SP PT

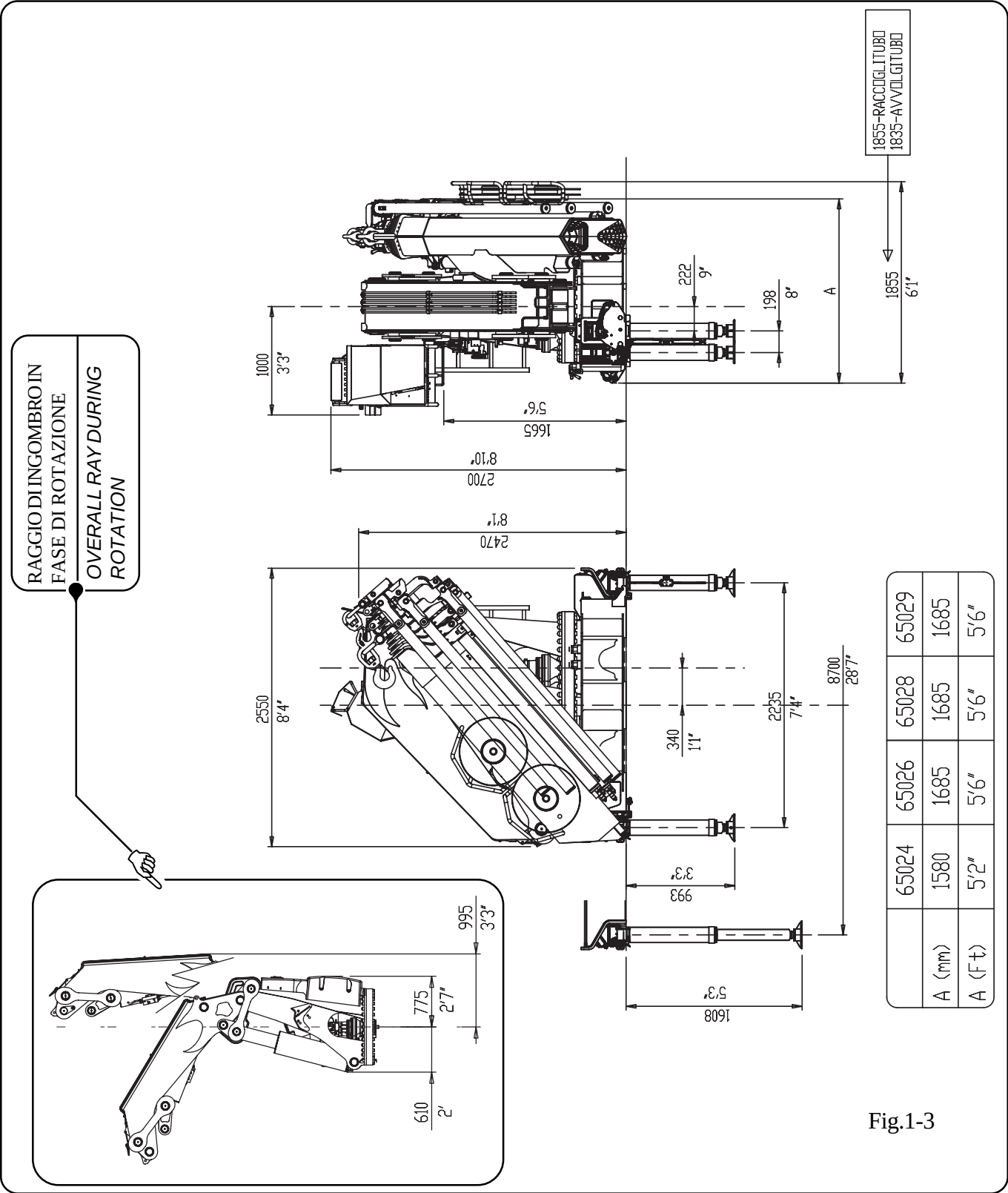
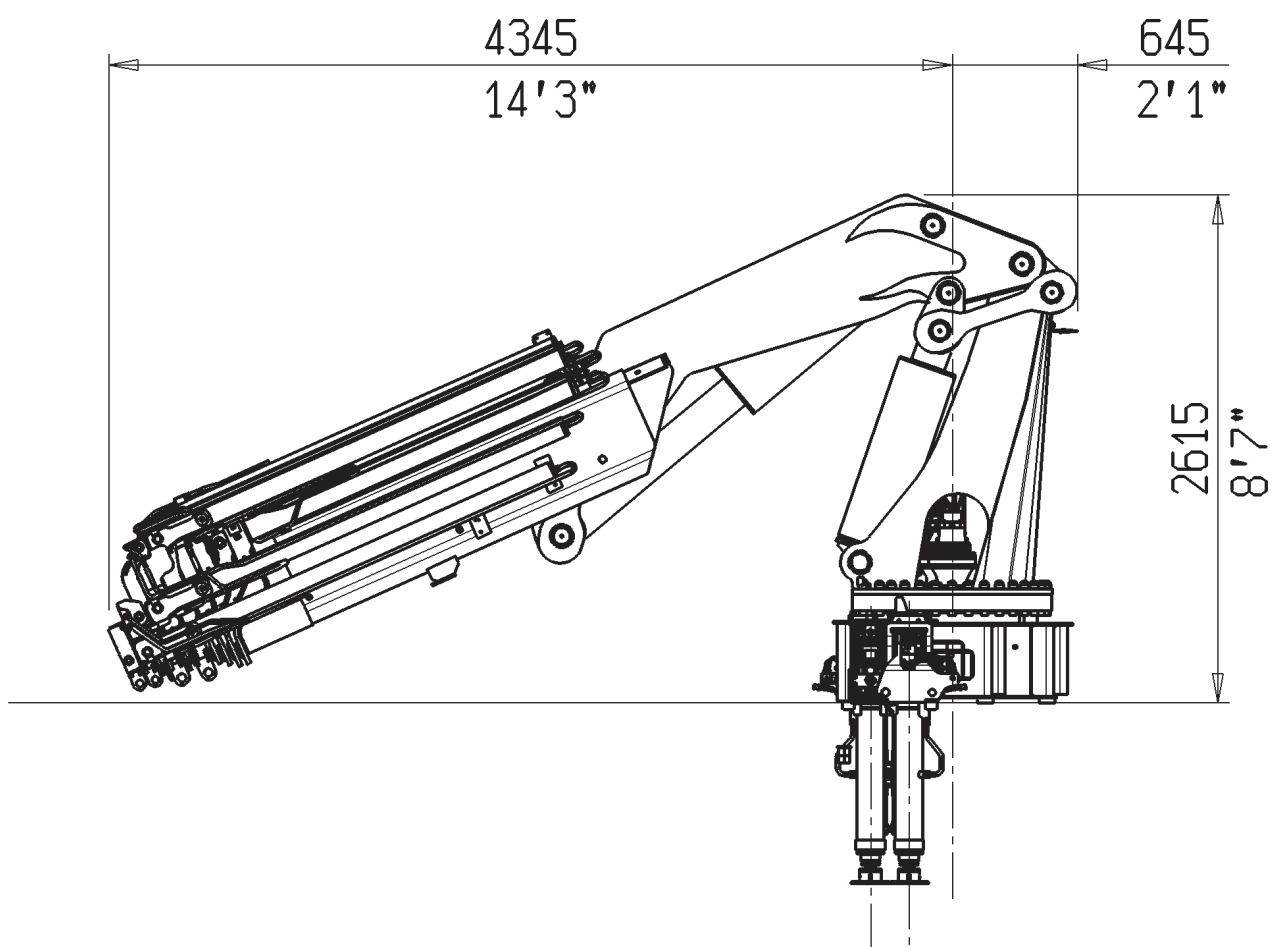
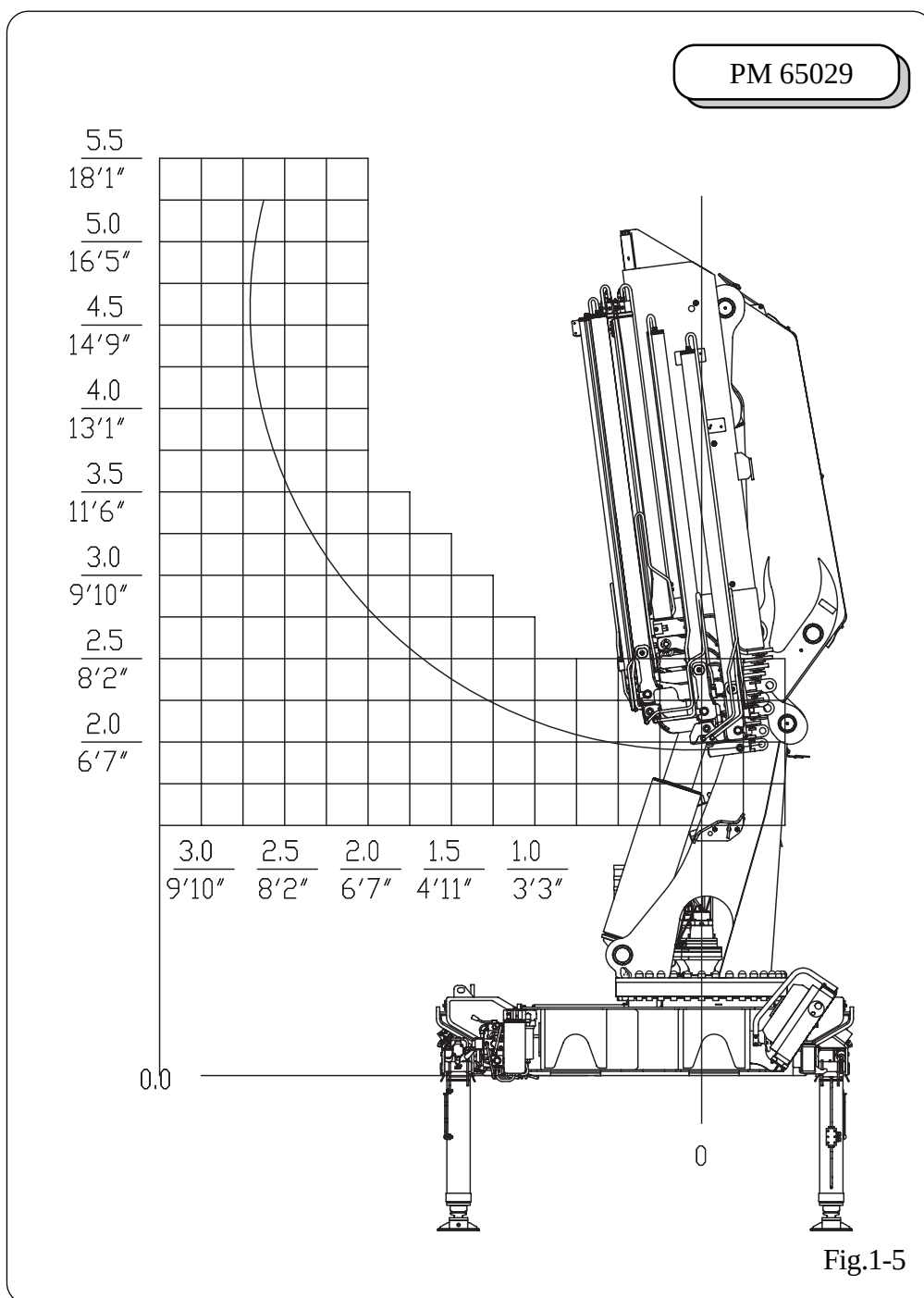


Fig.1-3



## 1.5 TRAIETTORIE DI SOLLEVAMENTO DEL CARICO SOTTO COLONNA

## 1.5 LIFTING TRAJECTORIES UNDER COLUMN



## 1.6 MODALITA' DI INSTALLAZIONE

Le seguenti modalità di installazione sono un piccolo riassunto di quanto indicato per esteso sul nostro manuale di installazione, per ogni dubbio o chiarimento o per ulteriori dettagli vogliate consultarlo.

In ogni caso l'installazione deve essere eseguita in conformità alle prescrizioni impartite dalla casa costruttrice del veicolo e degli organi competenti di ciascun Paese.

### 1.6.1 GRU MONTATA DIETRO OGNI CABINA DI GUIDA

La gru deve essere piazzata sull'autotelaio con l'interposizione di un controtelaio di sezione costante per una lunghezza non inferiore a due volte la larghezza della base di appoggio della gru sul controtelaio.

Il controtelaio deve essere interposto partendo il più possibile sotto la cabina.

La sezione del controtelaio deve essere gradualmente ridotta per una lunghezza non inferiore a 1,5 volte l'altezza massima della sezione del controtelaio stesso oppure, deve essere raccordata e solidale con il controtelaio proprio della carrozzeria o di altra sovrastruttura.

Vale la riduzione graduale sopraddeita anche per l'estremità anteriore del controtelaio.

Nel caso di impiego degli stabilizzatori supplementari la lunghezza del controtelaio deve essere prolungata agli stabilizzatori supplementari che debbono essere collegati con esso.

Occorre inoltre che gli stabilizzatori supplementari siano scelti e montati rispettando l'interasse minimo indicato nel successivo paragrafo.

### 1.6.2 GRU INSTALLATA SULLO SBALZO POSTERIORE DEL VEICOLO

Il controtelaio deve essere continuo fino alla zona retro cabina e deve avere sezione costante per tutta la sua lunghezza. L'estremità anteriore del controtelaio deve essere rastremata per una lunghezza non inferiore a 1,5 volte l'altezza dei longheroni del controtelaio.

## 1.6 DIFFERENT TYPES OF CRANE'S INSTALLATION

*The following instructions are a small summary of what indicated and explained in the operator's manual, therefore should you have any doubt or need explanation, will you please consult the manual. At any rate, the crane installation should be effected in accordance with the regulations of the vehicle's manufacturer and with the competent Institutions of any Country.*

### 1.6.1 CRANE MOUNTED BEHIND TRUCK CABIN

*The crane must be placed on the truck chassis with the interposition of a subframe with constant section and for a length not lower than two times the width of the supporting base of the crane on the subframe.*

*Subframe must be interposed starting as much as possible under cabin.*

*Section of subframe shall be gradually reduced for a length not lower than 1,5 times the maximum height of subframe section, or it must be connected and integral with proper subframe of bodywork or other superstructure.*

*The gradual reduction above mentioned is valid also for front end of subframe.*

*Using supplementary outriggers the length of subframe must be extended to the supplementary outriggers that must be connected with it.*

*Therefore supplementary outriggers must be chosen and mounted following the minimum distance indicated in following paragraph.*

### 1.6.2 CRANE INSTALLED ON REAR OVERHANG OF TRUCK

*Subframe shall be continuous up to the area behind cabin and must have constant section along its whole length.*

*The front end of subframe must be tapered for a length not lower than 1,5 times the subframe member height.*

### 1.6.3 MOMENTO MASSIMO DINAMICO GRU

PM 65 SP PT      =>    730    KNm  
                              (538420 ft lbs)

### 1.6.4 FORZA MASSIMA ESERCITATA SUL TERRENO DAI STABILIZZATORI

PM 65 SP PT      =>    Stab.STD    17000 daN

### 1.6.3 MAXIMUM DYNAMIC MOMENT OF THE CRANE

PM 65 SP PT      =>    730    KNm  
                              (538420    ft lbs)

### 1.6.4 MAXIMUM FORCE EXERTED ON GROUND BY EACH OUTRIGGER

PM 65 SP PT      =>    Outr.STD  
                              17000 daN (37480 lbs)

## 1.7 ANCORAGGIO (Fig. 1-6)

L'ancoraggio deve essere eseguito con l'ausilio dei tiranti, delle staffe e dei dadi che forniamo in dotazione con la macchina.

### 1.7.1 DATI TECNICI ANCORAGGIO DI NOSTRA FORNITURA

- Nr. 8 tiranti con filettatura M39x3  
lunghezza: 1300mm (interamente filettati)  
materiale: 39 NiCrMo3 bonificato-Pos.5
- Nr. 8 staffe superiori - spessore 40mm, materiale: C40-Pos.6
- Nr. 4 staffe inferiori - spessore 40mm, materiale: S690Q-Pos.4
- Nr. 16 rondelle 40x72 - Pos. 3
- Nr. 24 dadi alti M39x3 - Pos. 2
- Nr. 8 dadi bassi M39x3 - Pos.1

**COPPIA DI SERRAGGIO DEI TIRANTI DI ANCORAGGIO:**  
 $160 \pm 15 \text{ daNm}$

## 1.7 ANCHORAGE (fig. 1-6)

Anchorage should be done using tierods, brackets and nuts that are sent to you together with the crane.

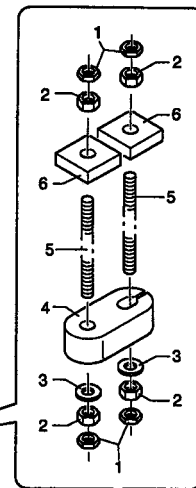
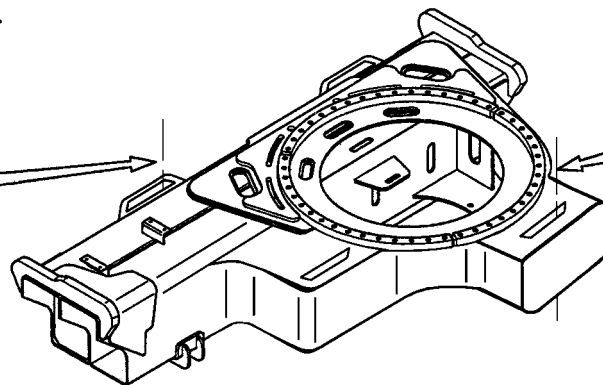
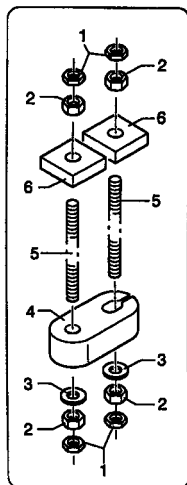
### 1.7.1 TECHNICAL DATA ABOUT ANCHORAGE SUPPLIED

- Nr. 8 tierods with thread M39 x 3, length 1300 mm (completely threaded), material: 39 NiCrMo3 hardened and tempered - Pos. 5
- Nr. 8 upper brackets for support - 40mm thickness, material: C40 - Pos. 6
- Nr. 4 lower brackets - 40 mm thickness, material -S690Q - Pos. 4
- Nr. 16 washer 40x72 - Pos. 3
- Nr. 24 high nuts M39 x 3 - Pos. 2
- Nr. 8 low nuts M39x 3 - Pos. 1

**SETTING TORQUE OF ANCHORAGE TIERODS :  $160 \pm 15 \text{ daNm}$**   
**( $1180 \pm 111 \text{ ft lbs}$ )**

Schema di ancoraggio.

- 1 - Dado basso.
- 2 - Dado alto.
- 3 - Rondella.
- 4 - Staffa inferiore.
- 5 - Tirante.
- 6 - Staffa superiore.



Anchoring drawing.

- 1 - Low nut.
- 2 - Hight nut.
- 3 - Washer.
- 4 - Inferior bracket.
- 5 - Tierod.
- 6 - Superior bracket.

Fig.1-6

### 1.7.2 DIMENSIONI DI ANCORAGGIO (fig.1-7)

### 1.7.2 MOUNTING DIMENSIONS (fig. 1-7)

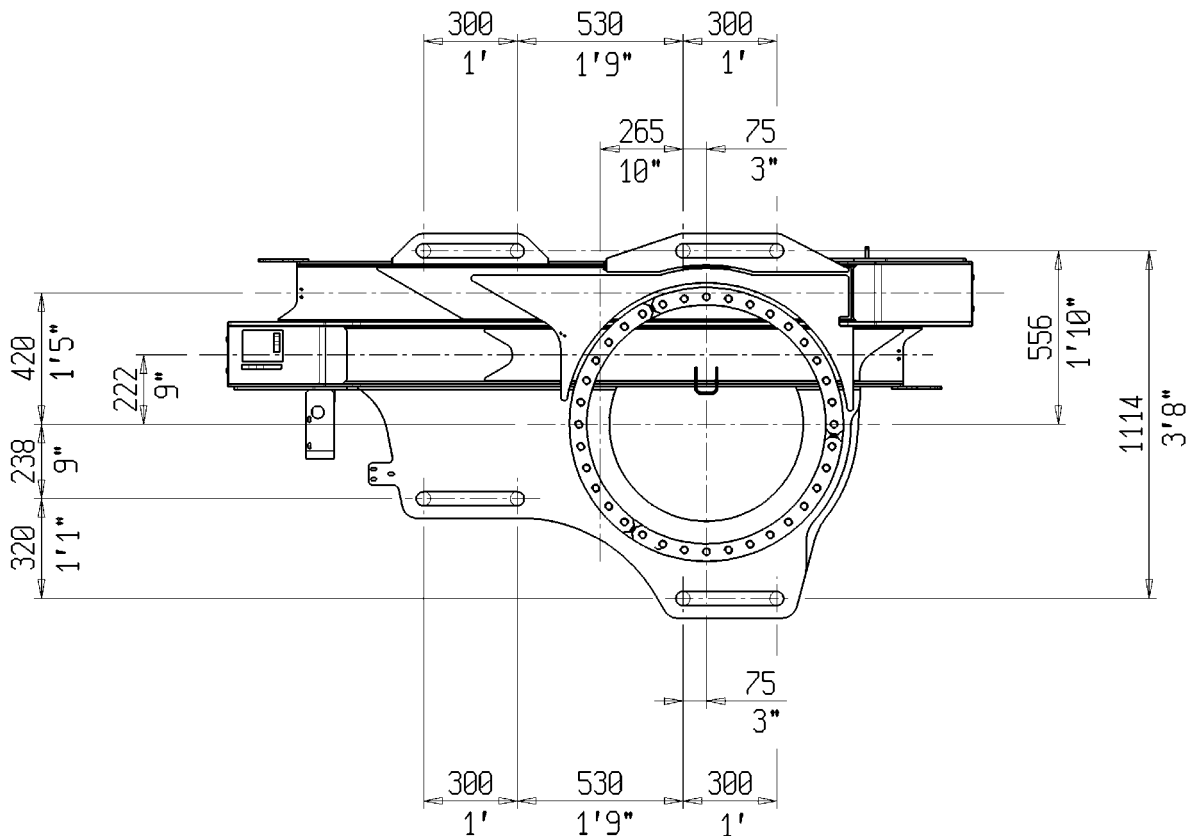


Fig.1-7

### 1.8 TABELLA BARICENTRI

### 1.8 CENTER OF GRAVITY TABLE

- a0= -Asse colon./ Stab.Dx.  
-Colum axis/right outrigger
- a1= -Asse colon./ Stab.Sx.  
-Colum axis/left outrigger
- b = -Asse colon./baricentro parti sospese.  
-Colum axis/centre of gravity overhung parts
- L = -Sbracc.max.estensione (mensola 15°).  
-Max idraulic reach (main boom 15°)
- G0= -Peso parti fisse.  
-Fixed parts weight
- G1= Peso parti sospese.  
-Overhung parts weight
- P = -Peso sollevato allo sbraccio L.  
-Weight lifted at the max extension L

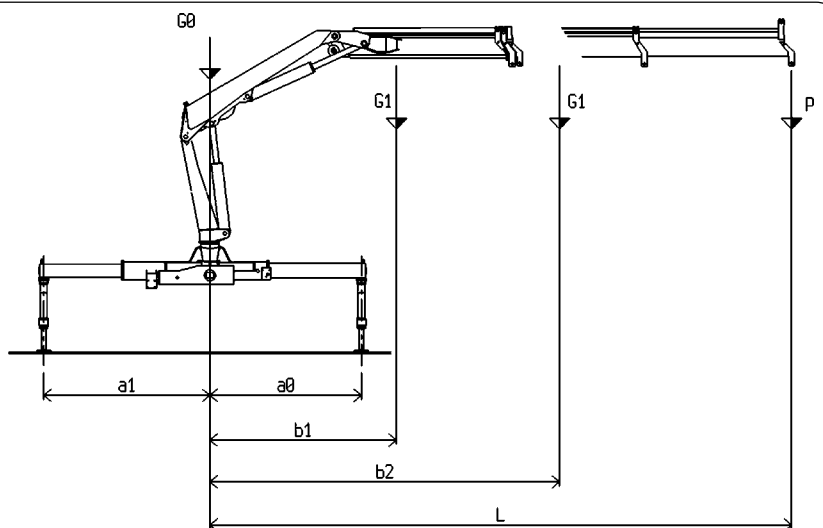


Fig.1-8

| <b>Gru</b>                     | <b>Br.Stab</b> | <b>a0<br/>mm</b> | <b>a1<br/>mm</b> | <b>b1 (CR)<br/>mm</b> | <b>b2 (WA2)<br/>mm</b> | <b>L (CL)<br/>mm</b> | <b>G0 (WC)<br/>kg</b> | <b>G1 (WA)<br/>kg</b> | <b>P (CL2)<br/>Kg</b> |
|--------------------------------|----------------|------------------|------------------|-----------------------|------------------------|----------------------|-----------------------|-----------------------|-----------------------|
| PM 65024 SP<br>PT STD          | Standard       | 4010             | 4690             | 2180                  | 3750                   | 11200                | 3725                  | 2870                  | 5100                  |
|                                | Large          | /                | /                |                       |                        |                      | /                     |                       |                       |
|                                | ExtraLarge     | /                | /                |                       |                        |                      | /                     |                       |                       |
| PM 65026 SP<br>PT STD          | Standard       | 4010             | 4690             | 2325                  | 5145                   | 15300                | 3725                  | 3355                  | 3270                  |
|                                | Large          | /                | /                |                       |                        |                      | /                     |                       |                       |
|                                | ExtraLarge     | /                | /                |                       |                        |                      | /                     |                       |                       |
| PM 65028 SP<br>PT STD          | Standard       | 4010             | 4690             | 2430                  | 6560                   | 19600                | 3725                  | 3775                  | 2180                  |
|                                | Large          | /                | /                |                       |                        |                      | /                     |                       |                       |
|                                | ExtraLarge     | /                | /                |                       |                        |                      | /                     |                       |                       |
| PM 65029 SP<br>PT STD          | Standard       | 4010             | 4690             | 2470                  | 7110                   | 21800                | 3725                  | 3970                  | 1800                  |
|                                | Large          | /                | /                |                       |                        |                      | /                     |                       |                       |
|                                | ExtraLarge     | /                | /                |                       |                        |                      | /                     |                       |                       |
| PM 65026 +<br>J903.20 SP<br>PT | Standard       | 4010             | 4690             | 2890                  | 7490                   | 23400                | 3725                  | 4340                  | 1090                  |
|                                | Large          | /                | /                |                       |                        |                      | /                     |                       |                       |
|                                | ExtraLarge     | /                | /                |                       |                        |                      | /                     |                       |                       |
| PM 65026 +<br>J904.20 SP<br>PT | Standard       | 4010             | 4690             | 2935                  | 7720                   | 25200                | 3725                  | 4420                  | 830                   |
|                                | Large          | /                | /                |                       |                        |                      | /                     |                       |                       |
|                                | ExtraLarge     | /                | /                |                       |                        |                      | /                     |                       |                       |

| <b>Crane</b>                   | <b>Outriggers<br/>Booms</b> | <b>a0<br/>ft</b> | <b>a1<br/>ft</b> | <b>b1 (CR)<br/>ft</b> | <b>b2 (WA2)<br/>ft</b> | <b>L (CL)<br/>ft</b> | <b>G0 (WC)<br/>lbs</b> | <b>G1 (WA)<br/>lbs</b> | <b>P (CL2)<br/>lbs</b> |
|--------------------------------|-----------------------------|------------------|------------------|-----------------------|------------------------|----------------------|------------------------|------------------------|------------------------|
| PM 65024 SP<br>PT STD          | Standard                    | 13' 2"           | 15' 5"           | 7' 2"                 | 12' 4"                 | 36' 9"               | 8215                   | 6330                   | 11245                  |
|                                | Large                       | /                | /                |                       |                        |                      | /                      |                        |                        |
|                                | ExtraLarge                  | /                | /                |                       |                        |                      | /                      |                        |                        |
| PM 65026 SP<br>PT STD          | Standard                    | 13' 2"           | 15' 5"           | 7' 8"                 | 16' 11"                | 50' 2"               | 8215                   | 7400                   | 7210                   |
|                                | Large                       | /                | /                |                       |                        |                      | /                      |                        |                        |
|                                | ExtraLarge                  | /                | /                |                       |                        |                      | /                      |                        |                        |
| PM 65028 SP<br>PT STD          | Standard                    | 13' 2"           | 15' 5"           | 7' 12"                | 21' 6"                 | 64' 4"               | 8215                   | 8325                   | 4810                   |
|                                | Large                       | /                | /                |                       |                        |                      | /                      |                        |                        |
|                                | ExtraLarge                  | /                | /                |                       |                        |                      | /                      |                        |                        |
| PM 65029 SP<br>PT STD          | Standard                    | 13' 2"           | 15' 5"           | 8' 1"                 | 23' 4"                 | 71' 6"               | 8215                   | 8755                   | 3970                   |
|                                | Large                       | /                | /                |                       |                        |                      | /                      |                        |                        |
|                                | ExtraLarge                  | /                | /                |                       |                        |                      | /                      |                        |                        |
| PM 65026 +<br>J903.20 SP<br>PT | Standard                    | 13' 2"           | 15' 5"           | 9' 6"                 | 24' 7"                 | 76' 9"               | 8215                   | 9570                   | 2405                   |
|                                | Large                       | /                | /                |                       |                        |                      | /                      |                        |                        |
|                                | ExtraLarge                  | /                | /                |                       |                        |                      | /                      |                        |                        |
| PM 65026 +<br>J904.20 SP<br>PT | Standard                    | 13' 2"           | 15' 5"           | 9' 8"                 | 25' 4"                 | 82' 8"               | 8215                   | 9745                   | 1830                   |
|                                | Large                       | /                | /                |                       |                        |                      | /                      |                        |                        |
|                                | ExtraLarge                  | /                | /                |                       |                        |                      | /                      |                        |                        |

## 1.9 STABILIZZATORI SUPPLEMENTARI

Possono essere applicati i seguenti tipi di stabilizzatori supplementari:

**Modello 14.00T-SI 5.0**

### DATI TECNICI

-Reazione massima sullo stabilizzatore ..... daN 14000  
-Peso.....Kg 515

## 1.9 SUPPLEMENTARY OUTRIGGERS

*It is possible to install this types of supplementary outriggers:*

**Model 14.00T-SI 5.0**

### Technical Data

-Maximum reaction on outrigger .....daN 14000 (17445 lbs-ft)  
-Weight.....Kg 515 (1135 lbs)

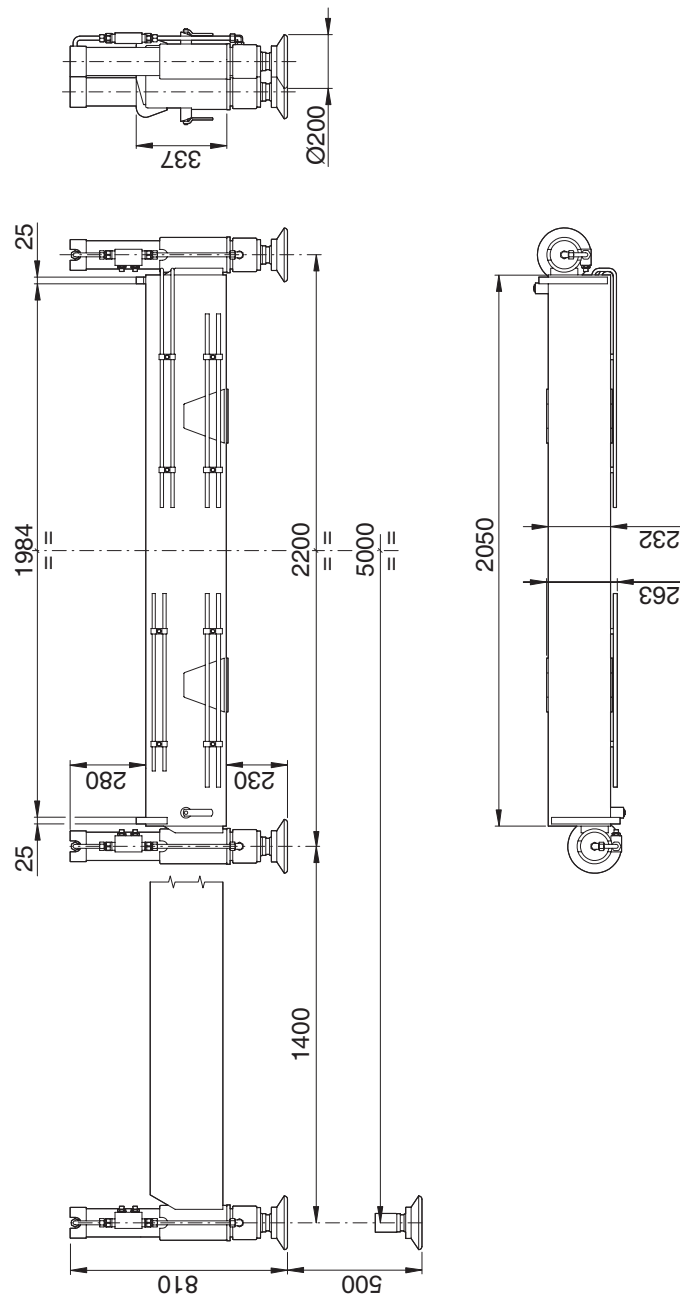


Fig.1-9



## 2: IMPIANTO IDRAULICO

### 2.1 LEGENDA DEL CIRCUITO IDRAULICO

|    |                                         |
|----|-----------------------------------------|
| A  | = Valvola di sovrappressione generale.  |
| B  | = Valvola di scarico.                   |
| S  | = Valvola di blocco semplice            |
| BD | = Valvola di blocco doppia              |
| R  | = Valvola di blocco con rubinetto       |
| FR | = Valvola di frenaggio                  |
| G  | = Motore idraulico verricello           |
| SD | = Valvola di sequenza                   |
| I  | = Freno idraulico verricello            |
| LT | = Tamburo del verricello                |
| P  | = Valvola paracadute                    |
| F  | = Valvola selettiva                     |
| L  | = Limitatore di momento                 |
| DV | = Deviatore multifunzione               |
| PE | = Pressostato elettrico                 |
| RI | = Valvola di riarmo idraulico           |
| NO | = Elettrovalvola N.O.                   |
| E  | = Arresto di emergenza                  |
| PR | = Interruttore innesto PTO              |
| FS | = Fusibile                              |
| D1 | = Distributore stabilizzatori           |
| D2 | = Distributore rotazione                |
| D3 | = Distributore martinetto colonna       |
| D4 | = Distributore martinetto mensola       |
| D5 | = Distributore martinetto bracci        |
| D6 | = Distributore martinetto snodo antenna |
| D7 | = Distributore martinetto sfilo antenna |
| D8 | = Distributore verricello               |

#### NOTA

I valori di taratura delle valvole sono espresse in MPa. (1MPa = 10 bar = 145psi)

## 2: HYDRAULIC CIRCUITS

### 2.1 LETTERS' DESCRIPTION IN HYDRAULIC SYSTEMS

|    |                                                     |
|----|-----------------------------------------------------|
| A  | = General overpressure valve                        |
| B  | = Exhaust valve                                     |
| S  | = Simple lock valve                                 |
| BD | = Double lock valve                                 |
| R  | = Check valve with taps                             |
| FR | = Breaking valve                                    |
| G  | = Hydraulic winch motor                             |
| SD | = Sequence valve                                    |
| I  | = Hydraulic winch drum                              |
| LT | = Winch drum                                        |
| P  | = Parachute valve                                   |
| F  | = Selector valve                                    |
| L  | = Load limiting device                              |
| DV | = Multifunction lever switch                        |
| PE | = Electric pressure switch                          |
| RI | = Hydraulic resetting valves                        |
| NO | = N.O. solenoid valve                               |
| E  | = Emergency stop                                    |
| PR | = PTO clutch switch                                 |
| FS | = Fuse                                              |
| D1 | = Outriggers control valve block                    |
| D2 | = Slewing sys. control valve block                  |
| D3 | = Column cyl. control valve block                   |
| D4 | = Main boom cyl. control valve block                |
| D5 | = Boom cyl. control valve block                     |
| D6 | = Cylinder control valve block for jib articulation |
| D7 | = Cylinder control valve block for jib extension    |
| D8 | = Winch control valve block                         |

#### NOTE

The valve settings are expressed in MPa. (1MPa = 10bar = 145 psi)

## 2.2 IMPIANTI IDRAULICI GRU SERIE 65 SP PT (STABILIZZATORI ROTANTI)

## 2.2 HIDRAULIC SYSTEMS SERIE 65 SP PT (REVOLVING STABILISERS)

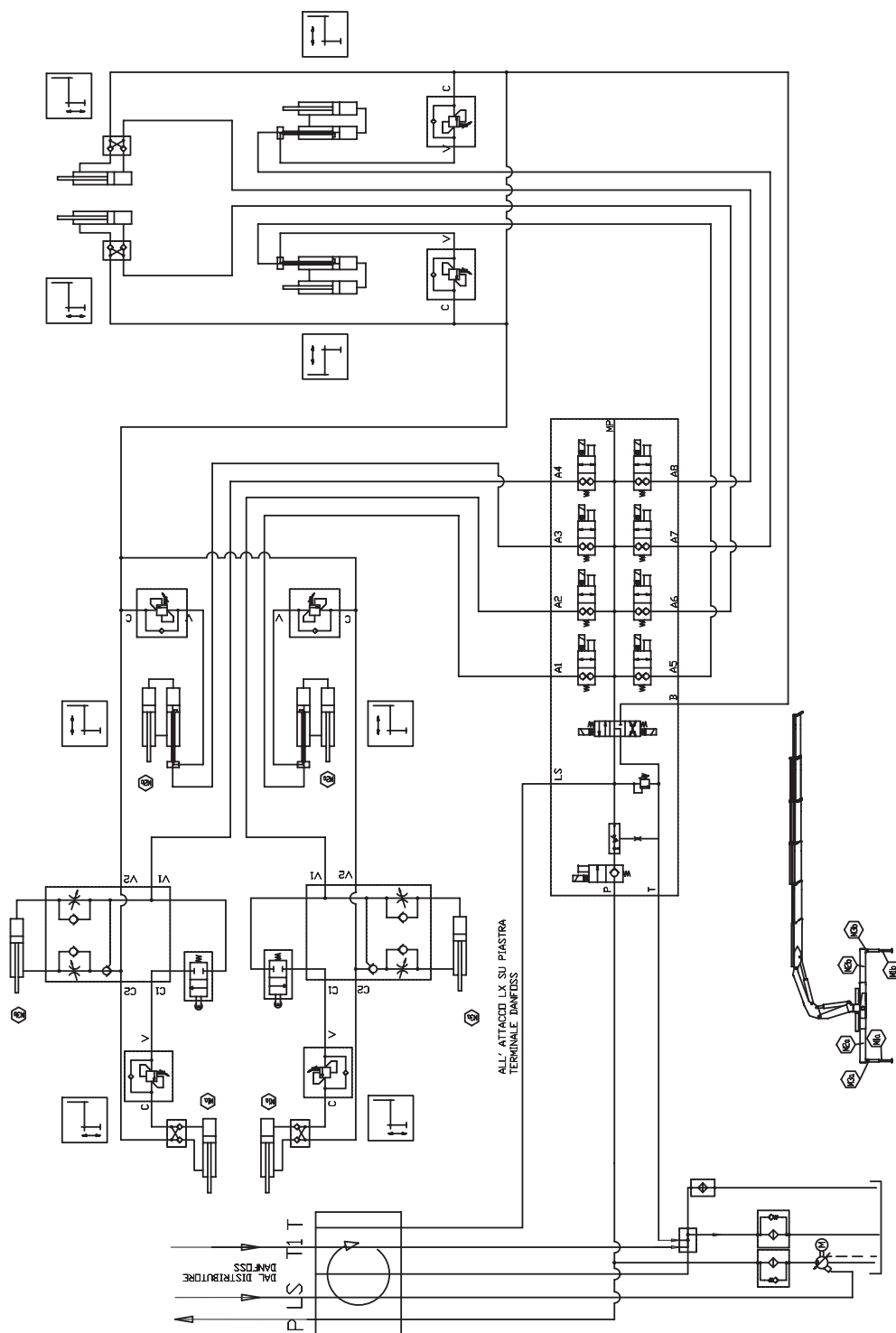
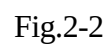


Fig.2-1

### 2.3 HIDRAULIC SYSTEMS SERIE 65 SP PT(OUTRIGGER FIXED )



## 2.4 IMPIANTI IDRAULICI GRU SERIE 65024 SP PT

## 2.4 HIDRAULIC SYSTEMS SERIE 65024 SP PT

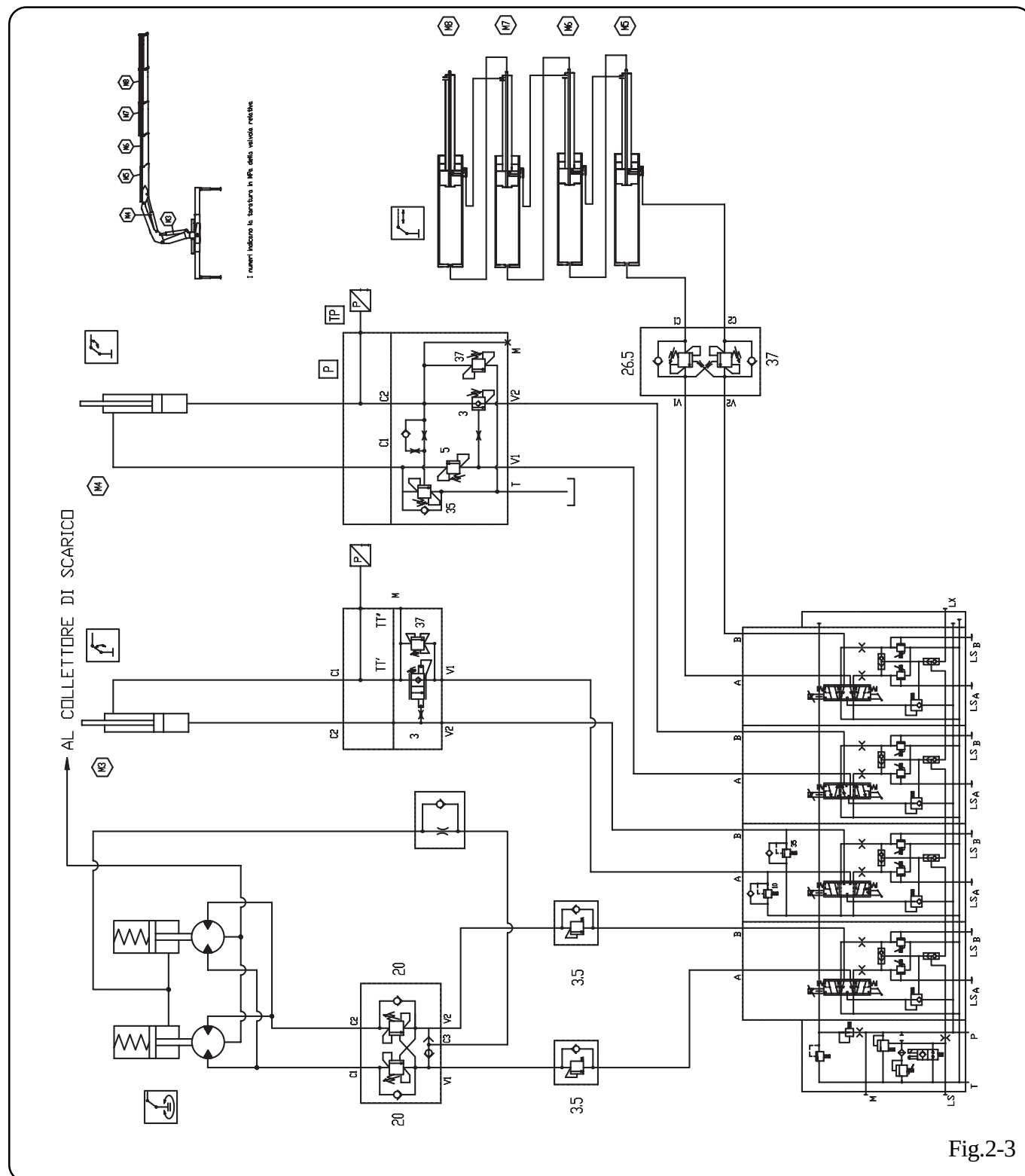
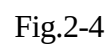
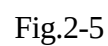


Fig.2-3

## 2.5 HIDRAULIC SYSTEMS SERIE 65026 SP PT



## 2.6 HIDRAULIC SYSTEMS SERIE 65028 SP PT



## 2.7 IMPIANTI IDRAULICI GRU SERIE 65029 SP PT

## 2.7 HIDRAULIC SYSTEMS SERIE 65029 SP PT

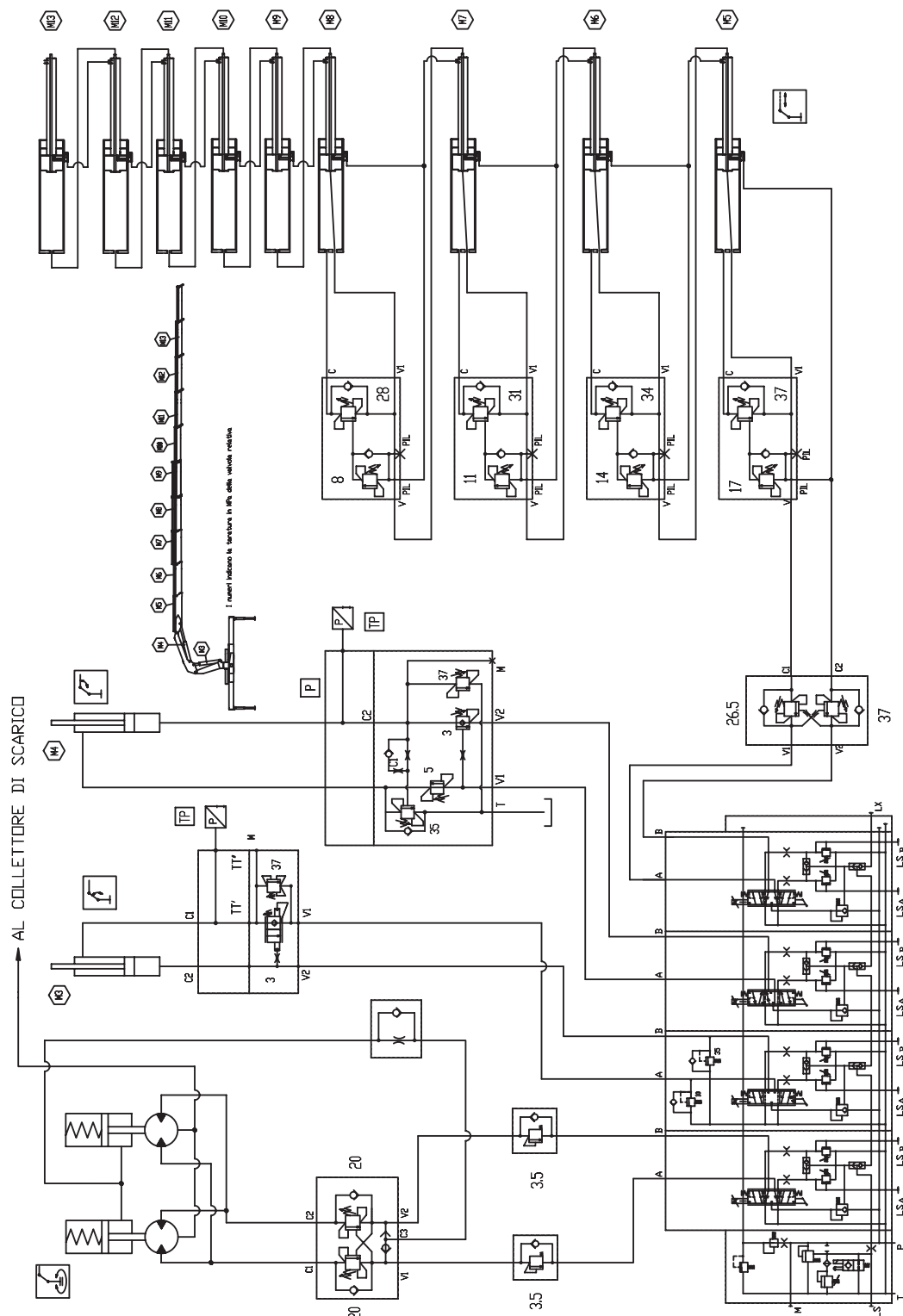


Fig.2-6

2.8 IMPIANTI IDRAULICI GRU SERIE  
65 SP PT + J903/4.20

2.8 HIDRAULIC SYSTEMS SERIE  
65 SP PT + J903/4.20

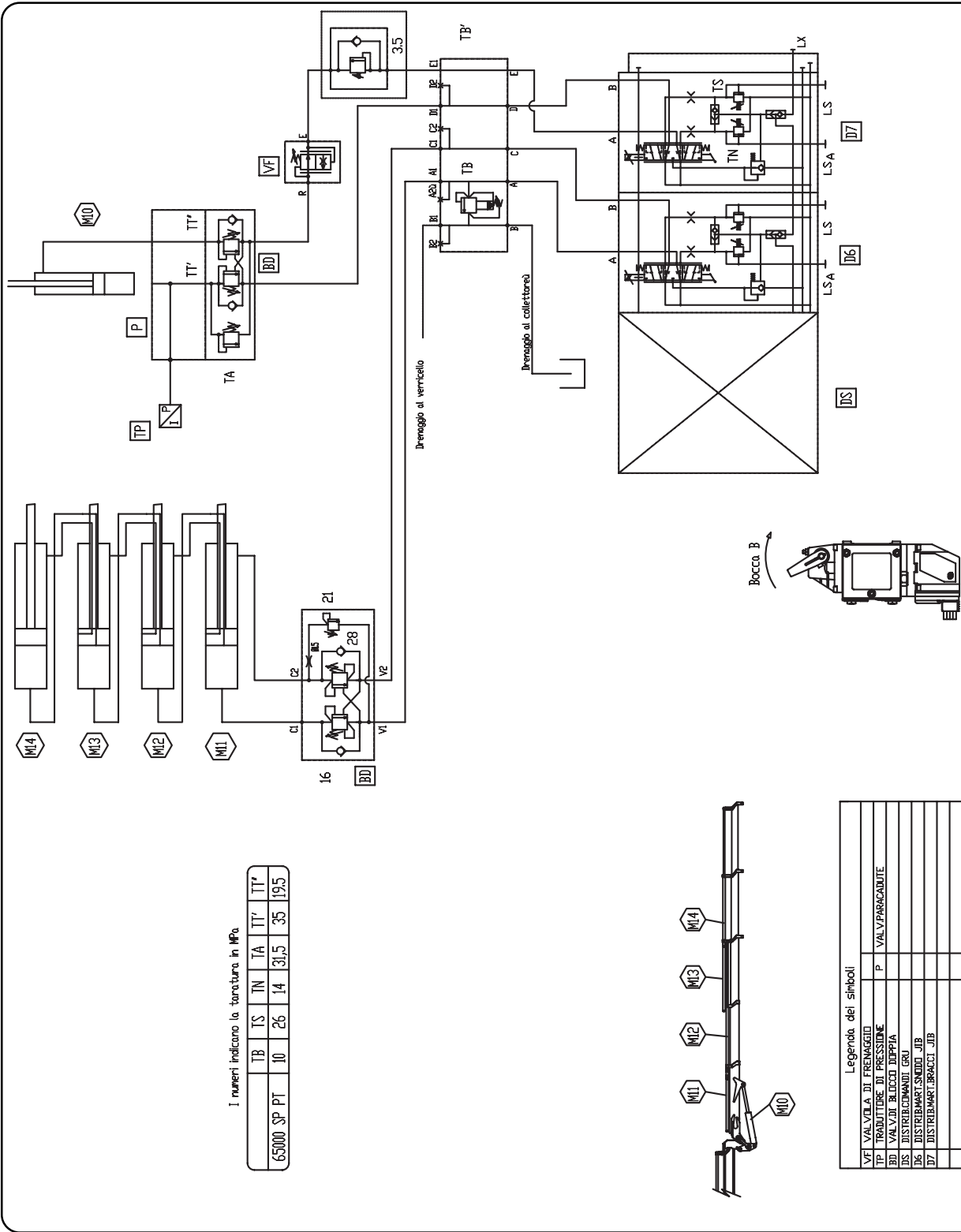


Fig.2-7

## 2.9 PROSPETTO RIEPILOGATIVO DELLE PRESSIONI DEL DISTRIBUTORE (MPa)

-Portata pompa: 80-100 l/min  
 -Temperatura OLIO 45° C  
 -Olio ISO VG 46  
 -Tolleranza: 0 ÷ +1 MPa

## 2.9 PRESSURE ON CONTROL VALVES BLOCK ( MPa - psi)

-Pump capacity: 80-100 l/min ( 21.1-26.4 US-gal/min)  
 -Temperature OIL 45°C (113 F°)  
 -Oil ISO VG 46  
 -Tolerance: 0 ÷ +1 MPa

| 65 SP PT                  |     | 24   |      | 26   |      | 28   |      | 29   |      |
|---------------------------|-----|------|------|------|------|------|------|------|------|
|                           |     | S    | D    | S    | D    | S    | D    | S    | D    |
| MARTINETTO COLONNA        | MPa | 31   | 7    | 31   | 7    | 31   | 7    | 31   | 7    |
| COLUMN CYLINDER           | PSI | 4500 | 1020 | 4500 | 1020 | 4500 | 1020 | 4500 | 1020 |
| MARTINETTO MENSOLA        | MPa | 31   | 31   | 31   | 31   | 31   | 31   | 31   | 31   |
| MAIN BOOM CYLINDER        | PSI | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 | 4500 |
|                           |     | U    | R    | U    | R    | U    | R    | U    | R    |
| MARTINETTO BRACCI         | MPa | 20   | 31   | 20   | 31   | 20   | 31   | 20   | 31   |
| BOOMS CYLINDER            | PSI | 2900 | 4500 | 2900 | 4500 | 2900 | 4500 | 2900 | 4500 |
|                           |     | O    | A    | O    | A    | O    | A    | O    | A    |
| ROTAZIONE                 | MPa | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |
| SLEEWING SYSTEM           | PSI | 3190 | 3190 | 3190 | 3190 | 3190 | 3190 | 3190 | 3190 |
|                           |     | U    | R    | U    | R    | U    | R    | U    | R    |
| STABILIZZATORI            | MPa | 18   | 18   | 18   | 18   | 18   | 18   | 18   | 18   |
| OUTTRIGER                 | PSI | 2610 | 2610 | 2610 | 2610 | 2610 | 2610 | 2610 | 2610 |
|                           |     | U    | R    | U    | R    | U    | R    | U    | R    |
| SNODO ANTENNA J903        | MPa | /    | /    | 28.5 | 20   | /    | /    | /    | /    |
| J903 ARTICULATION JIB     | PSI | /    | /    | 4130 | 2900 | /    | /    | /    | /    |
| SNODO ANTENNA J904        | MPa | /    | /    | 28.5 | 20   | /    | /    | /    | /    |
| J904 ARTICULATION JIB     | PSI | /    | /    | 4130 | 2900 | /    | /    | /    | /    |
|                           |     | U    | R    | U    | R    | U    | R    | U    | R    |
| SFILO ANTENNA J903-904    | MPa | /    | /    | 31.5 | 31.5 | /    | /    | /    | /    |
| J903-904 ARTICULATION JIB | PSI | /    | /    | 4570 | 4570 | /    | /    | /    | /    |

UNITA' DI PRESSIONE / PRESSURE UNIT = Mpa ( 1 Mpa = 10 bar )  
 PRESSURE UNIT = PSI ( 1MPa = 145 PSI )

S=Salita  
 D=Discesa  
 U=Uscita  
 R=Rientro  
 O=Oraria  
 A=Antioraria

S=Lifting  
 D=Lowering  
 U=Extension  
 R=Retracting  
 O=Clockwise  
 A=Anticlockwise

## 2.10 PROSPETTO RIEPILOGATIVO DELLE PRESSIONI DELLE VALVOLE SUI MARTINETTI (MPa)

-Temperatura OLIO 45° C  
-Olio ISO VG 46  
-Tolleranza: 0 ÷ +1 MPa

## 2.10 PRESSURE ON CYLINDERS VALVES (MPa - psi)

-Temperature OIL 45°C (113 F°)  
-Oil ISO VG 46  
-Tolerance: 0 ÷ +1 MPa

| 65 SP PT                  |     | 24       |          | 26       |          | 28       |          | 29       |          |
|---------------------------|-----|----------|----------|----------|----------|----------|----------|----------|----------|
|                           |     | S        | D        | S        | D        | S        | D        | S        | D        |
| MARTINETTO COLONNA        | MPa | 37       | /        | 37       | /        | 37       | /        | 37       | /        |
| COLUMN CYLINDER           | PSI | 5370     | /        | 5370     | /        | 5370     | /        | 5370     | /        |
| MARTINETTO MENSOLA        | MPa | 37       | /        | 37       | /        | 37       | /        | 37       | /        |
| MAIN BOOM CYLINDER        | PSI | 5370     | /        | 5370     | /        | 5370     | /        | 5370     | /        |
|                           |     | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> |
| MARTINETTO BRACCI         | MPa | 26.5     | 37       | 26.5     | 37       | 26.5     | 37       | 26.5     | 37       |
| BOOMS CYLINDER            | PSI | 3840     | 5370     | 3840     | 5370     | 3840     | 5370     | 3840     | 5370     |
|                           |     | <b>O</b> | <b>A</b> | <b>O</b> | <b>A</b> | <b>O</b> | <b>A</b> | <b>O</b> | <b>A</b> |
| ROTAZIONE                 | MPa | 22       | 22       | 22       | 22       | 22       | 22       | 22       | 22       |
| SLEEWING SYSTEM           | PSI | 3190     | 3190     | 3190     | 3190     | 3190     | 3190     | 3190     | 3190     |
|                           |     | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> |
| SNODO ANTENNA J903        | MPa | /        | /        | 35       | 19.5     | /        | /        | /        | /        |
| J903 ARTICULATION JIB     | PSI | /        | /        | 5080     | 2830     | /        | /        | /        | /        |
| SNODO ANTENNA J904        | MPa | /        | /        | 35       | 19.5     | /        | /        | /        | /        |
| J904 ARTICULATION JIB     | PSI | /        | /        | 5080     | 2830     | /        | /        | /        | /        |
|                           |     | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> | <b>U</b> | <b>R</b> |
| SFILO ANTENNA J903-904    | MPa | /        | /        | 16       | 21       | /        | /        | /        | /        |
| J903-904 ARTICULATION JIB | PSI | /        | /        | 2320     | 3050     | /        | /        | /        | /        |

UNITA' DI PRESSIONE / PRESSURE UNIT = Mpa ( 1 Mpa = 10 bar )  
PRESSURE UNIT = PSI ( 1MPa = 145 PSI )

## 2.11 PROSPETTO RIEPILOGATIVO DELLE PRESSIONI SUL LIMITATORE DI MOMENTO (MPa)

-Temperatura OLIO 45° C  
-Olio ISO VG 46  
-Tolleranza: 0 ÷ +1 MPa

## 2.11 PRESSURE ON CYLINDERS VALVES ON LOAD LIMIT (MPa - psi)

-Temperature OIL 45°C (113 F°)  
-Oil ISO VG 46  
-Tolerance: 0 ÷ +1 MPa

| PM 65000 SP PT                       | MPa  | PSi  |
|--------------------------------------|------|------|
| Martinetto Colonna                   | 29   | 4210 |
| Martinetto Mensola                   | 31   | 4500 |
| Marinetto Snodo<br>65026 + J903-4.20 | 26.5 | 3840 |

| PM 65000 SP PT                        | MPa  | PSi  |
|---------------------------------------|------|------|
| Column Cylinder                       | 28   | 4060 |
| Main Boom Cylinder                    | 31   | 4500 |
| Marinetto Snodo<br>65026+ + J903-4.20 | 26.5 | 3840 |

## 2.12 TEMPI DI LAVORO

(tempi teorici minimi senza carico)

- Q= 80-100 l/min
- Temperatura OLIO= 45°C
- OLIO ISO VG 46
- Tolleranza: ±5%

## 2.12 MOUVEMENTS SPEED

(minimum teorics times - without load)

- Q= 80-100 l/min ( 21.2-26.4 US-gals/min)
- Temperature OIL= 45°C ( 113 F°)
- OIL ISO VG 46
- Tollerance: ±5%

| 65 SP PT                                 |      | 65024 |    | 65026 |    | 65028 |    | 65029 |    |
|------------------------------------------|------|-------|----|-------|----|-------|----|-------|----|
|                                          |      | S     | D  | S     | D  | S     | D  | S     | D  |
| MARTINETTO COLONNA<br>COLUMN CYLINDER    | Sec. | 48    | 75 | 48    | 75 | 48    | 75 | 48    | 75 |
| MARTINETTO MENSOLA<br>MAIN BOOM CYLINDER | Sec. | 66    | 66 | 66    | 66 | 66    | 66 | 66    | 66 |
| MARTINETTO BRACCI<br>BOOMS CYLINDER      | Sec. | 40    | 32 | 66    | 48 | 84    | 67 | 93    | 76 |
| ROTAZIONE<br>SLEEWING SYSTEM             | Sec. | 60    | 60 | 60    | 60 | 60    | 60 | 60    | 60 |
| STABILIZZATORI<br>OUTTRIGER              | Sec. | 14    | 14 | 14    | 14 | 14    | 14 | 14    | 14 |

S=Salita / Uscita  
D=Discesa / Rientro

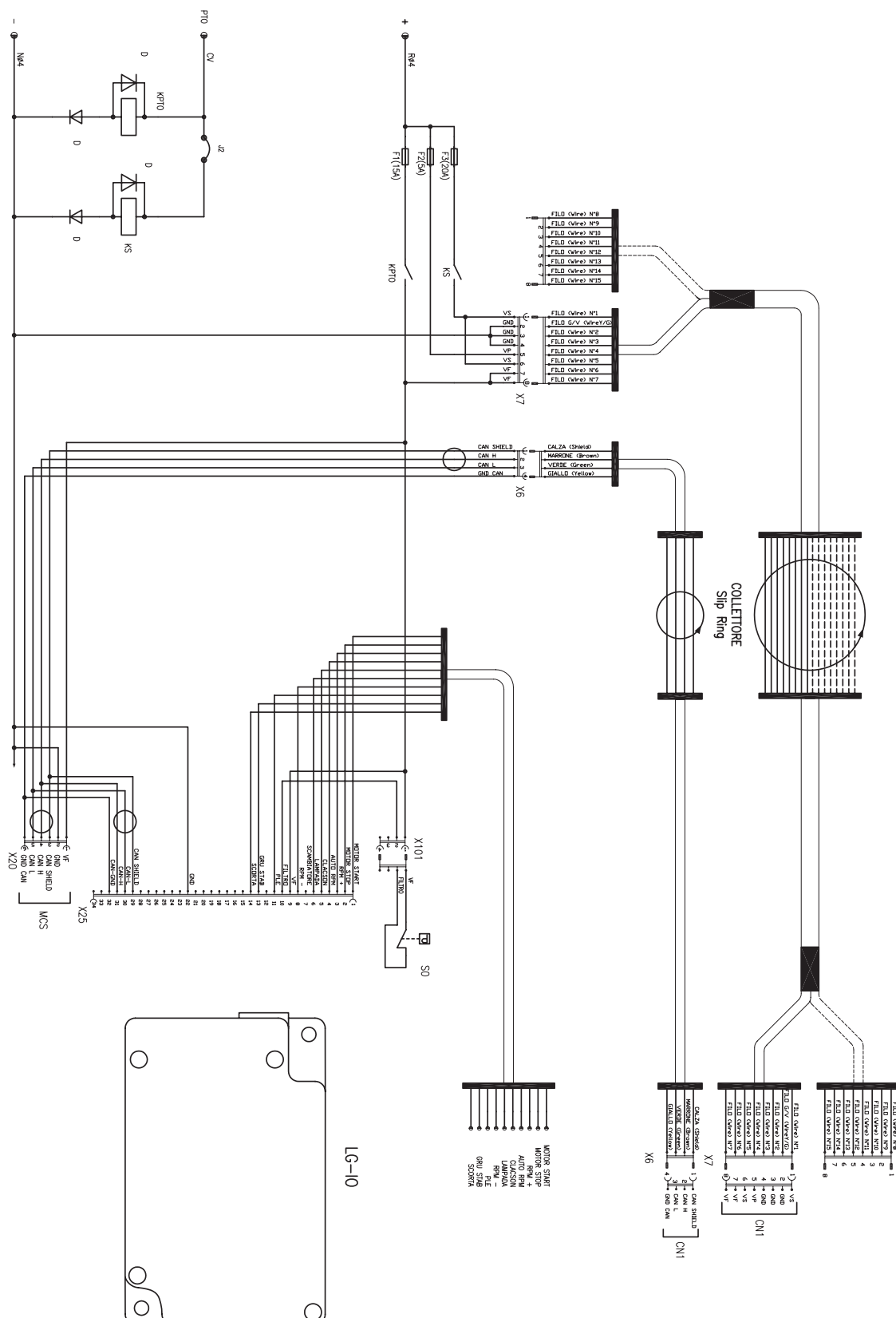
S=Lifting / Extension  
D=Lowering / Retracting

**GRU PM 65 SP PT  
CRANE PM 65 SP PT  
POWER TRONIC**

**GRU STD - (ANTENNA) - RADIO SCANRECO  
CRANE STD - (JIB) - REMOTE CONTROL SCANRECO**

**COD.**

282524  
282527  
282525  
282526  
282528  
282535  
282536  
282569  
282544



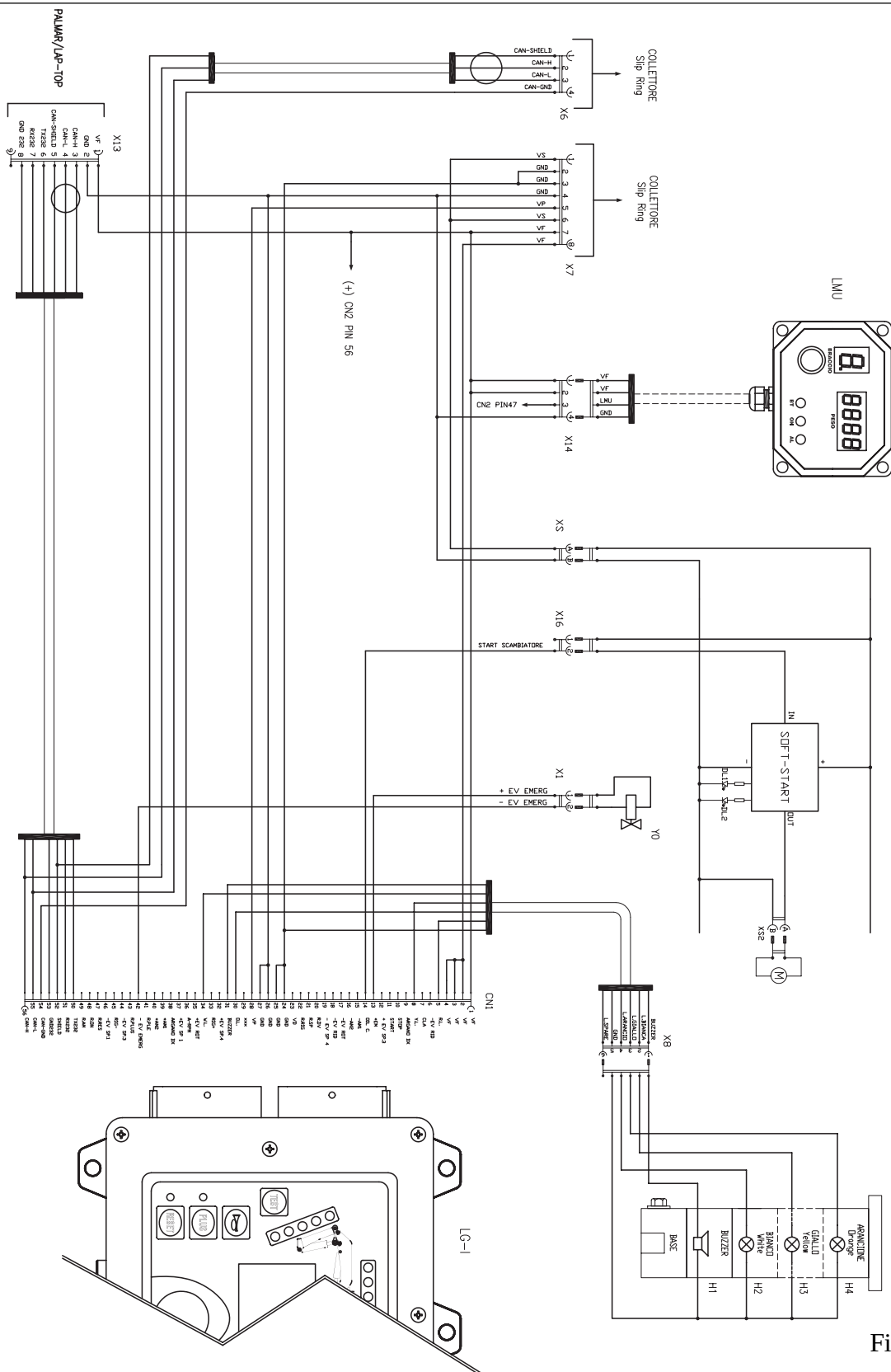
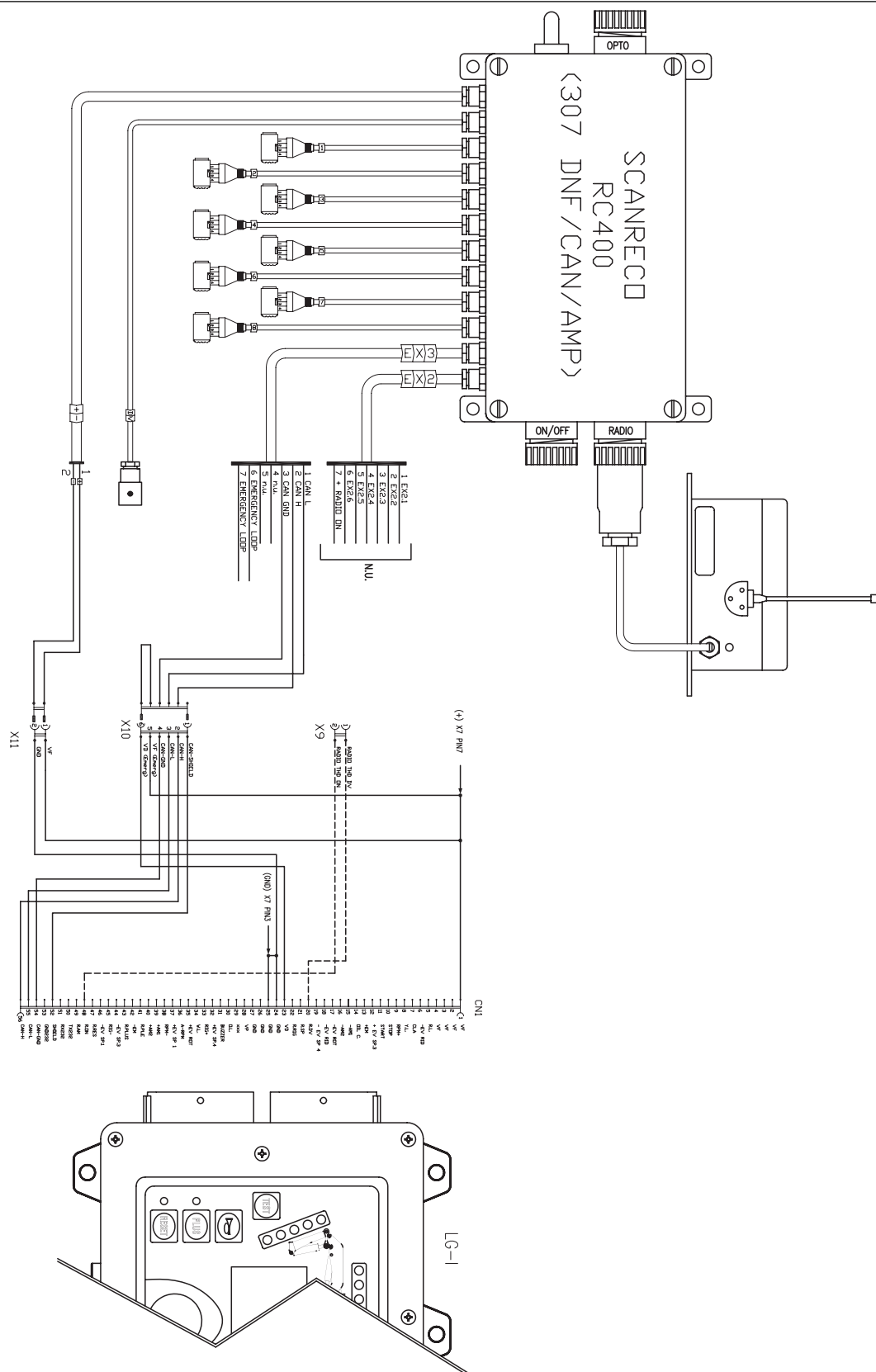
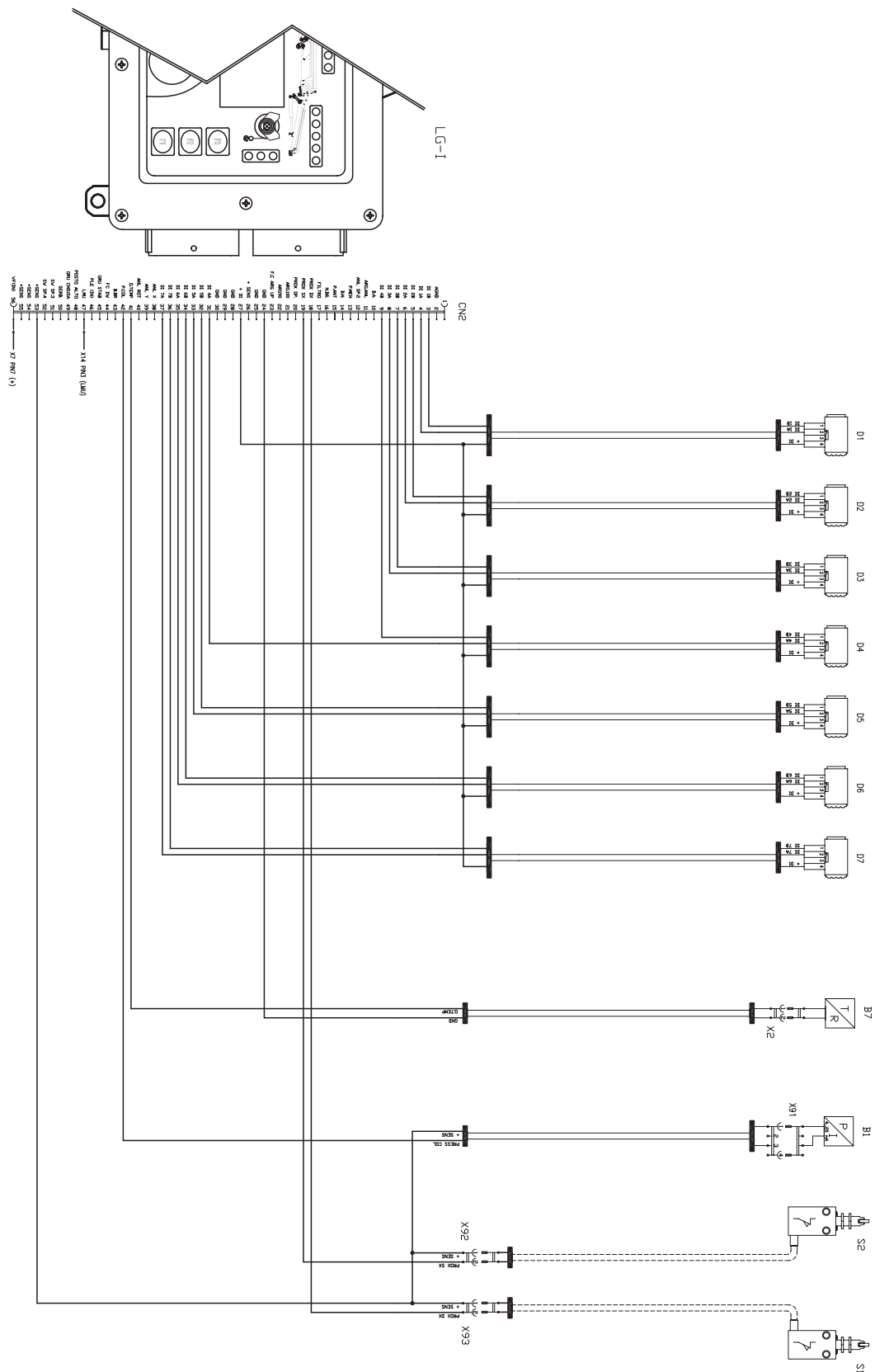


Fig.3-2





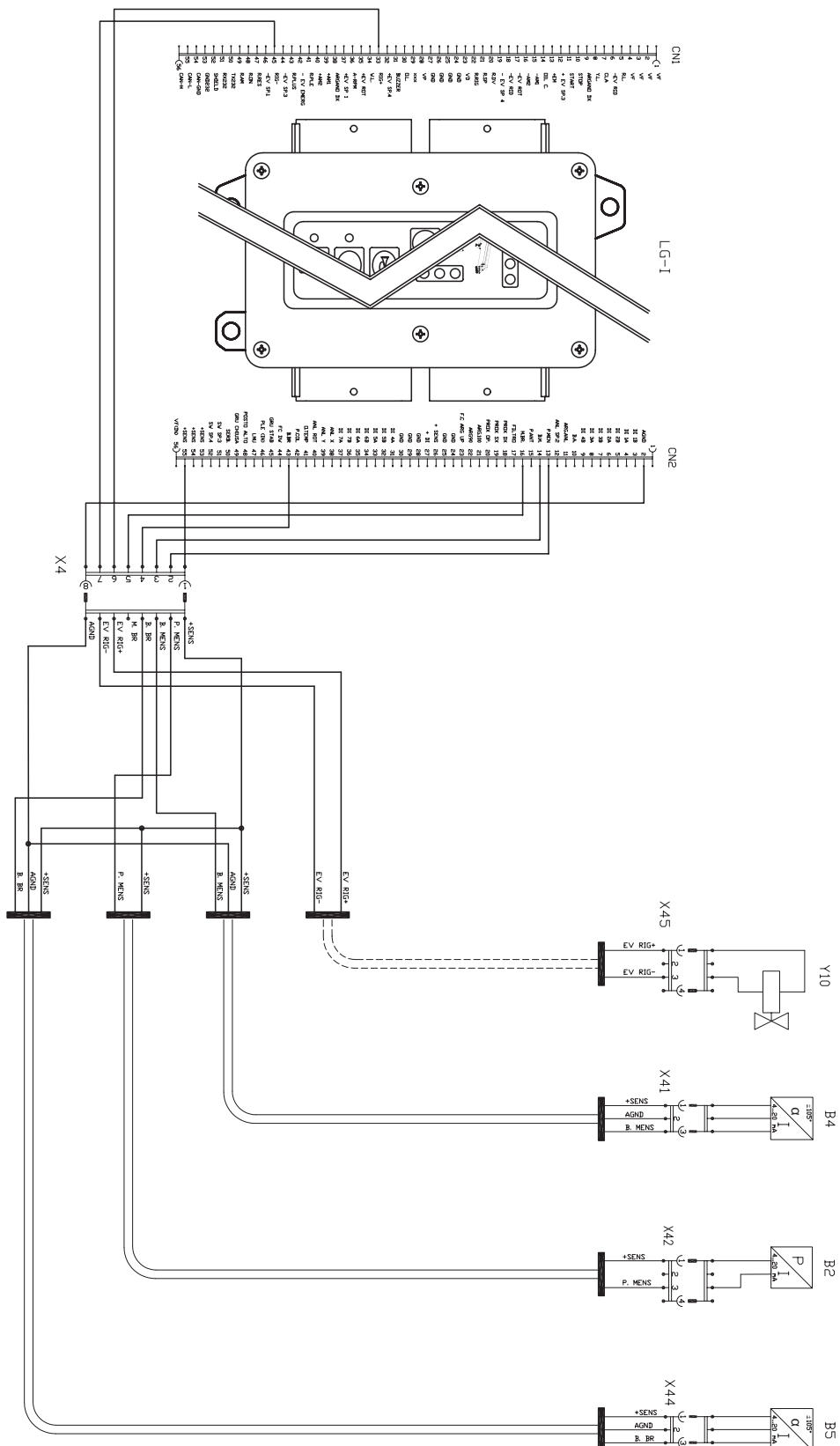


Fig.3-5

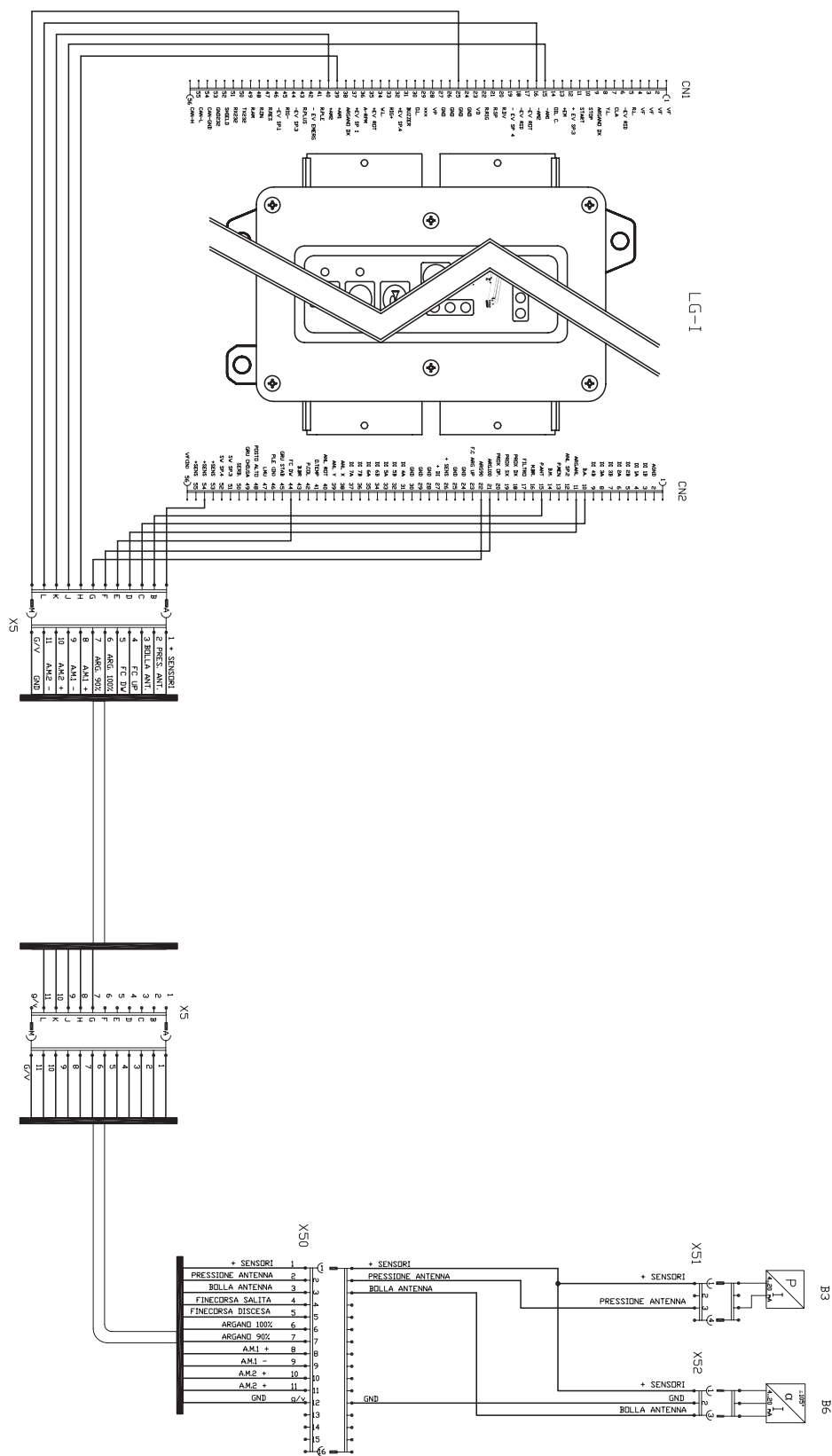


Fig.3-6

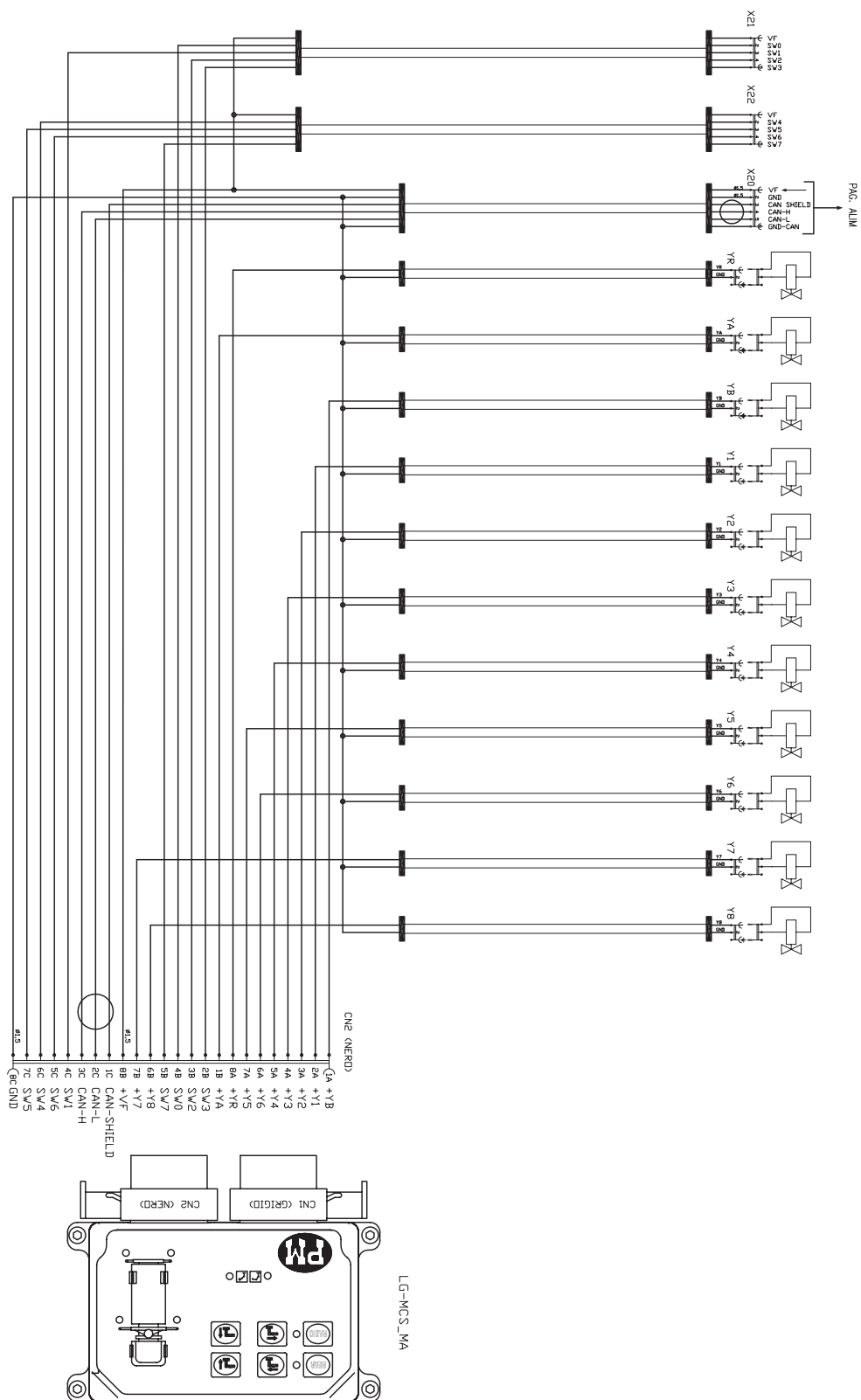


Fig.3-7

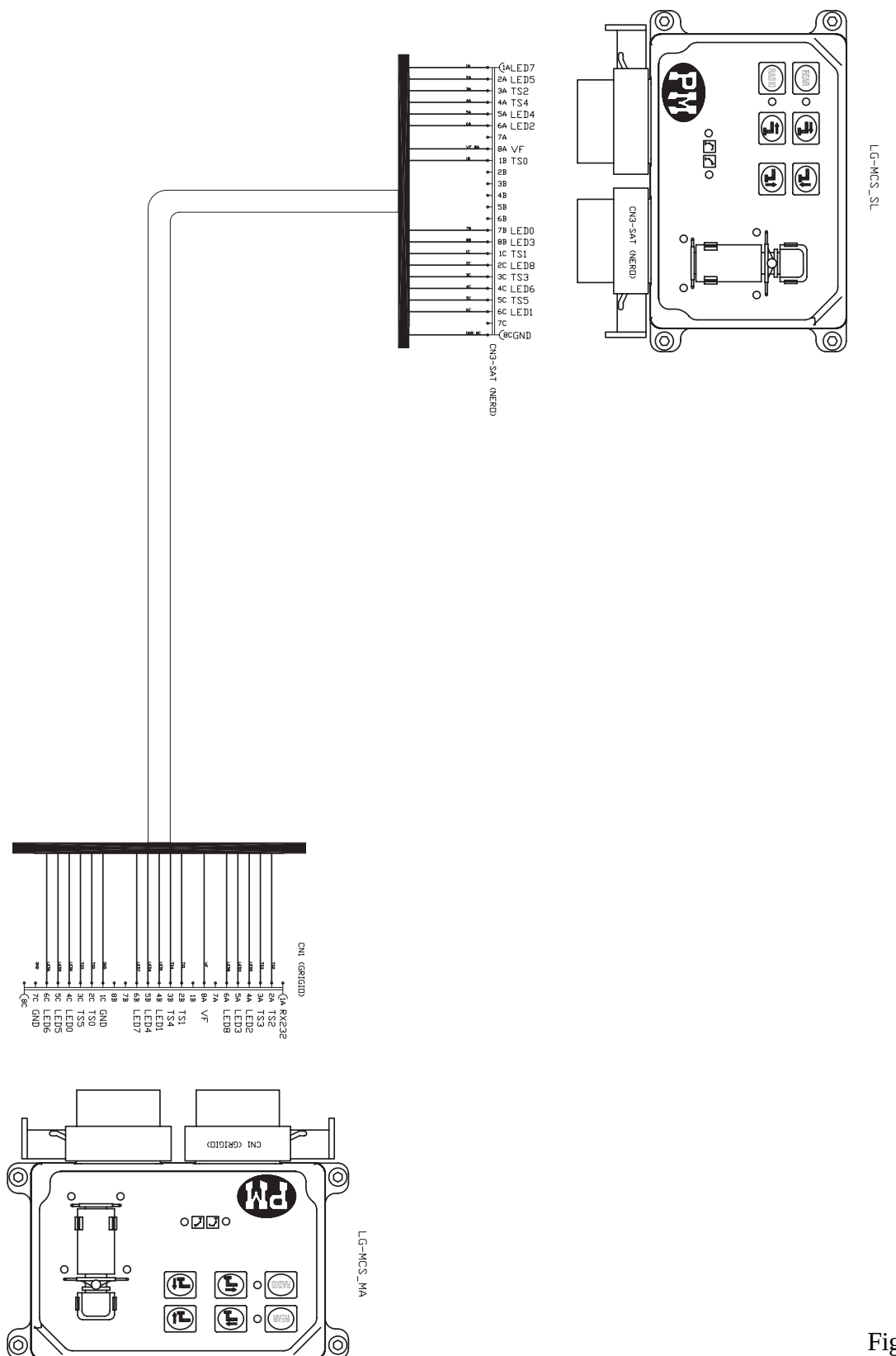


Fig.3-8

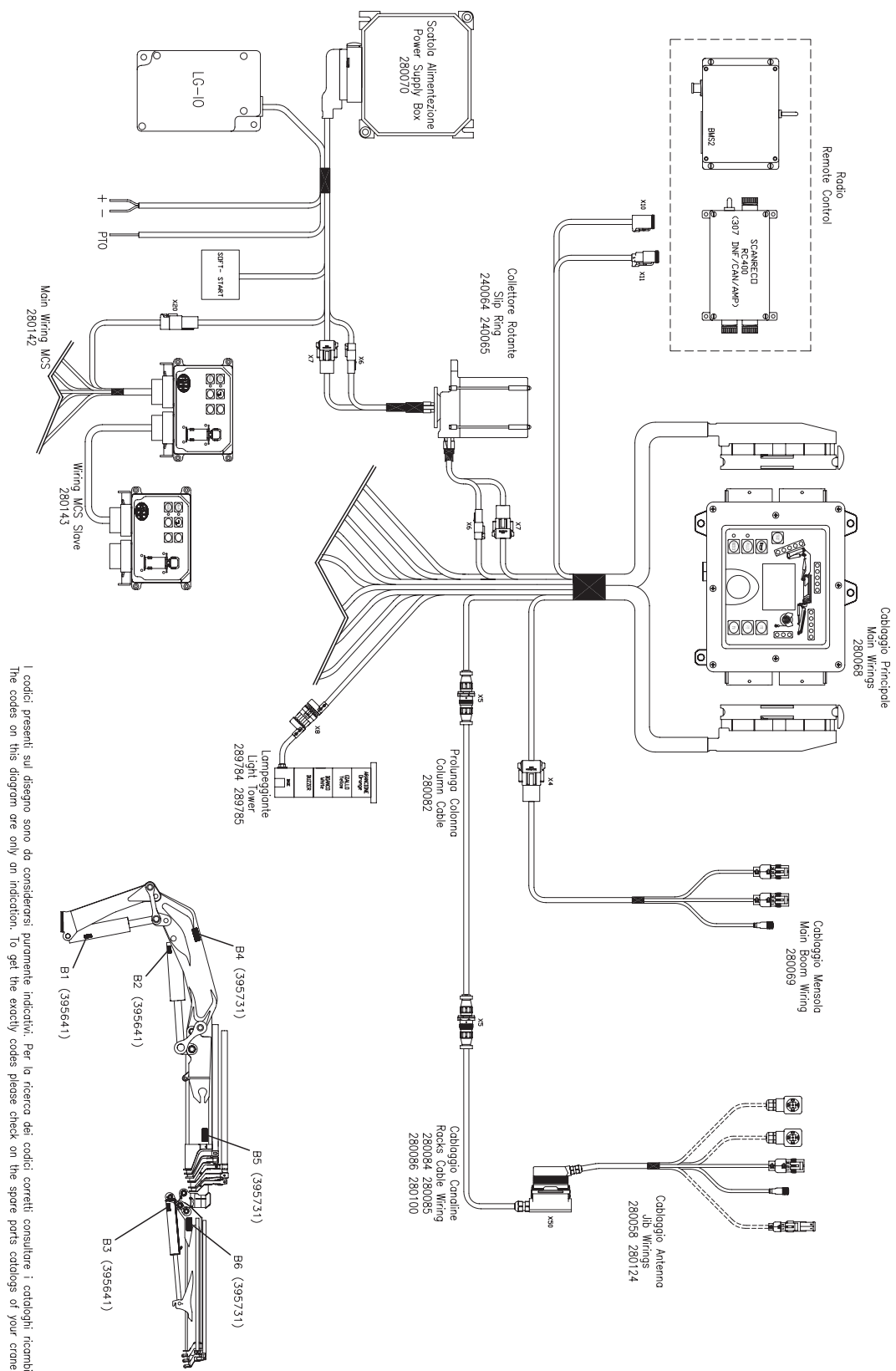


Fig.3-9

Fig.3-10

| LEGENDA/LEGEND |                                |                                       |           |                                   |                                |
|----------------|--------------------------------|---------------------------------------|-----------|-----------------------------------|--------------------------------|
| NAME/NAME      | FUNZIONE                       | FUNCTION                              | NAME/NAME | FUNZIONE                          | FUNCTION                       |
| CN1            | CONNETTORE SINISTRO CENTRALINA | RIGHT CONNECTOR CENTRAL UNIT          | D1        | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |
| CN2            | CONNETTORE DESTRO CENTRALINA   | LEFT CONNECTOR CENTRAL UNIT           | D2        | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |
| LG-1           | CENTRALINA POWER TRONIC        | POWER TRONIC MAIN UNIT                | D3        | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |
| LG-ID          | CENTRALINA INPUT OUTPUT        | INPUT OUTPUT UNIT                     | D4        | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |
| LG-MCS_MA      | MCS MASTER                     | MCS MASTER                            | D5        | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |
| LG-MCS_SL      | MCS SLAVE                      | MCS SLAVE                             | D6        | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |
| LG-SAT         | SATELLITE DOPPIO COMANDO       | SATELLITE OPPOSITE SIDE COMMAND       | D7        | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |
| LMU            | LMU                            | LMU                                   |           |                                   |                                |
|                |                                |                                       | Y0        | ELETTROVALVOLA DI EMERGENZA (EY9) | EMERGENCY VALVE (EY9)          |
| B1             | SENSORE PRESSIONE COLUMNA (P1) | COLUMN CYLINDER PRESSURE TRANSD. (P1) | Y10       | ELETTROVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |
| B2             | SENSORE PRESSIONE MENSOLA (P2) | MAIN BDM PRESSURE TRANSDUCER (P2)     | Y60       | MA.1                              | MA.1                           |
| B3             | SENSORE PRESSIONE ANTENNA (P3) | JIB PRESSURE TRANSDUCER (P3)          | Y61       | MA.2                              | MA.2                           |
| B4             | SENSORE ANGOLO MENSOLA (A1)    | MAIN ANGLE SENSOR (A1)                |           |                                   |                                |
| B5             | SENSORE ANGOLO BRACCI (A2)     | BDM PACK ANGLE SENSOR (A2)            | YR        | ELETTROVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |
| B6             | SENSORE ANGOLO ANTENNA (A3)    | JIB ANGLE SENSOR (A3)                 | YA        | ELETTROVALVOLA DIR. A             | OUT SOLENOID VALVE             |
| B7             | SENSORE TEMPERATURA OLIO       | OIL TEMPERATURE SENSOR                | YB        | ELETTROVALVOLA DIR. B             | IN SOLENOID VALVE              |
|                |                                |                                       | Y1        | ELETTROVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |
| S0             | FILTRO                         | FILTER                                | Y2        | ELETTROVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |
| S1             | MICRO ROTAZIONE DX             | SLEEVING RIGHT MICROSWITCH            | Y3        | ELETTROVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |
| S2             | MICRO ROTAZIONE SX             | SLEEVING LEFT MICROSWITCH             | Y4        | ELETTROVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |
| S3             | MICRO FINECORSA SALTIA ARGANO  | WINCH END STROKE-UP MICROSWITCH       | Y5        | ELETTROVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |
| S4             | MICRO FINECORSA DISCESA ARGANO | WINCH END STROKE DOWN MICROSWITCH     | Y6        | ELETTROVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |
| S5             | MICRO PACCO BRACCI RIENTRATO   | BDM PACK FULDED MICROSWITCH           | Y7        | ELETTROVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |
|                |                                |                                       | Y8        | ELETTROVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |
| M              | VENTOLA SCAMBIATORE            | OIL COOLER FAN                        |           |                                   |                                |
| H1             | CICALINO                       | BUZZER                                |           |                                   |                                |
| H2             | LUCE BIANCA                    | WHITE LIGHT                           |           |                                   |                                |
| H3             | LUCE GIALLA                    | YELLOW LIGHT                          |           |                                   |                                |
| H4             | LUCE ARANCIO                   | ORANGE LIGHT                          |           |                                   |                                |

**GRU PM 65 SP PT  
CRANE PM 65 SP PT  
POWER TRONIC**

**GRU STD - (ANTENNA) - RADIO HETRONIC  
CRANE STD - (JIB) - REMOTE CONTROL HETRONIC**

**COD.**

282524  
282527  
282530  
282525  
282526  
282528  
282535  
282536  
282569  
282544

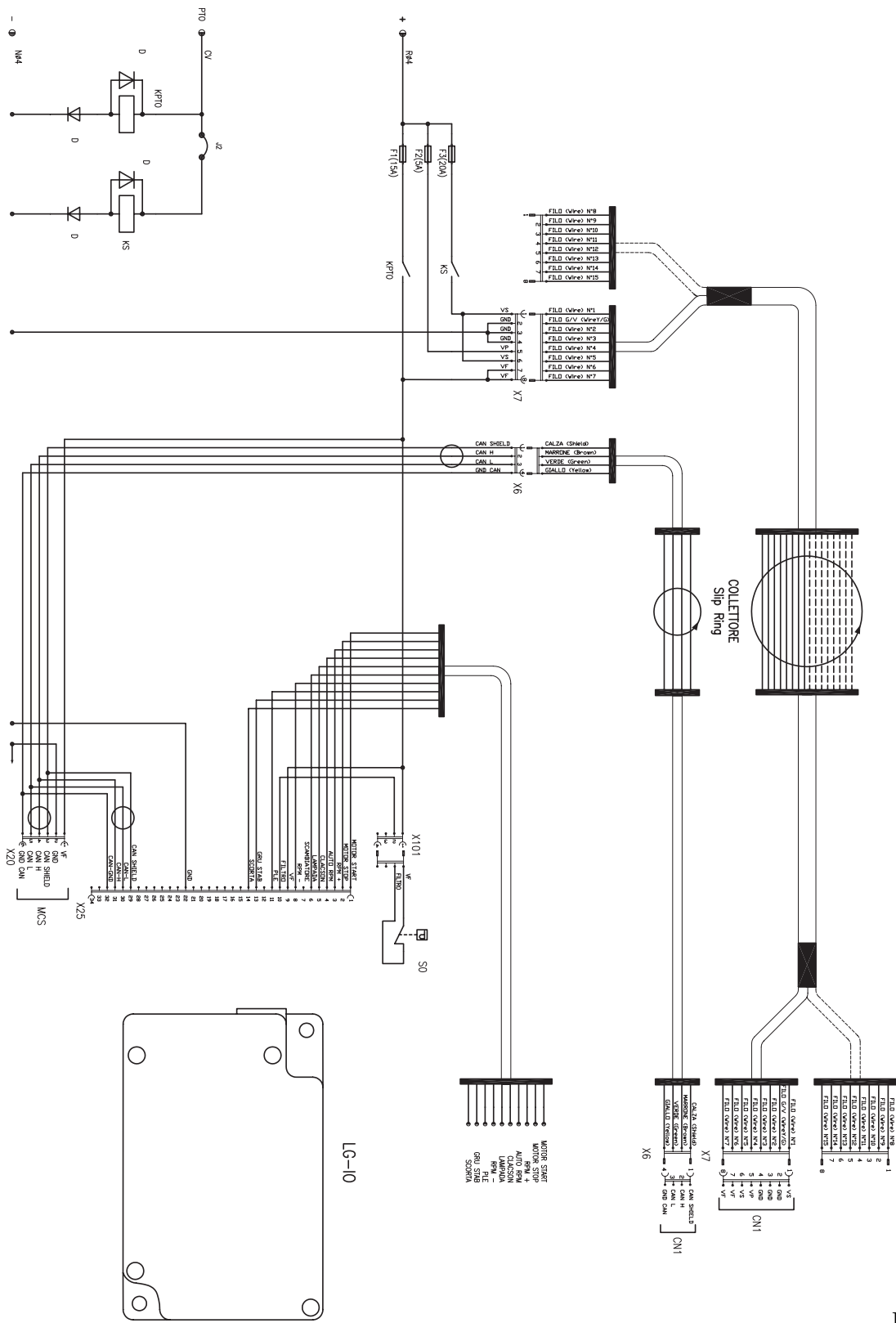


Fig.3-11

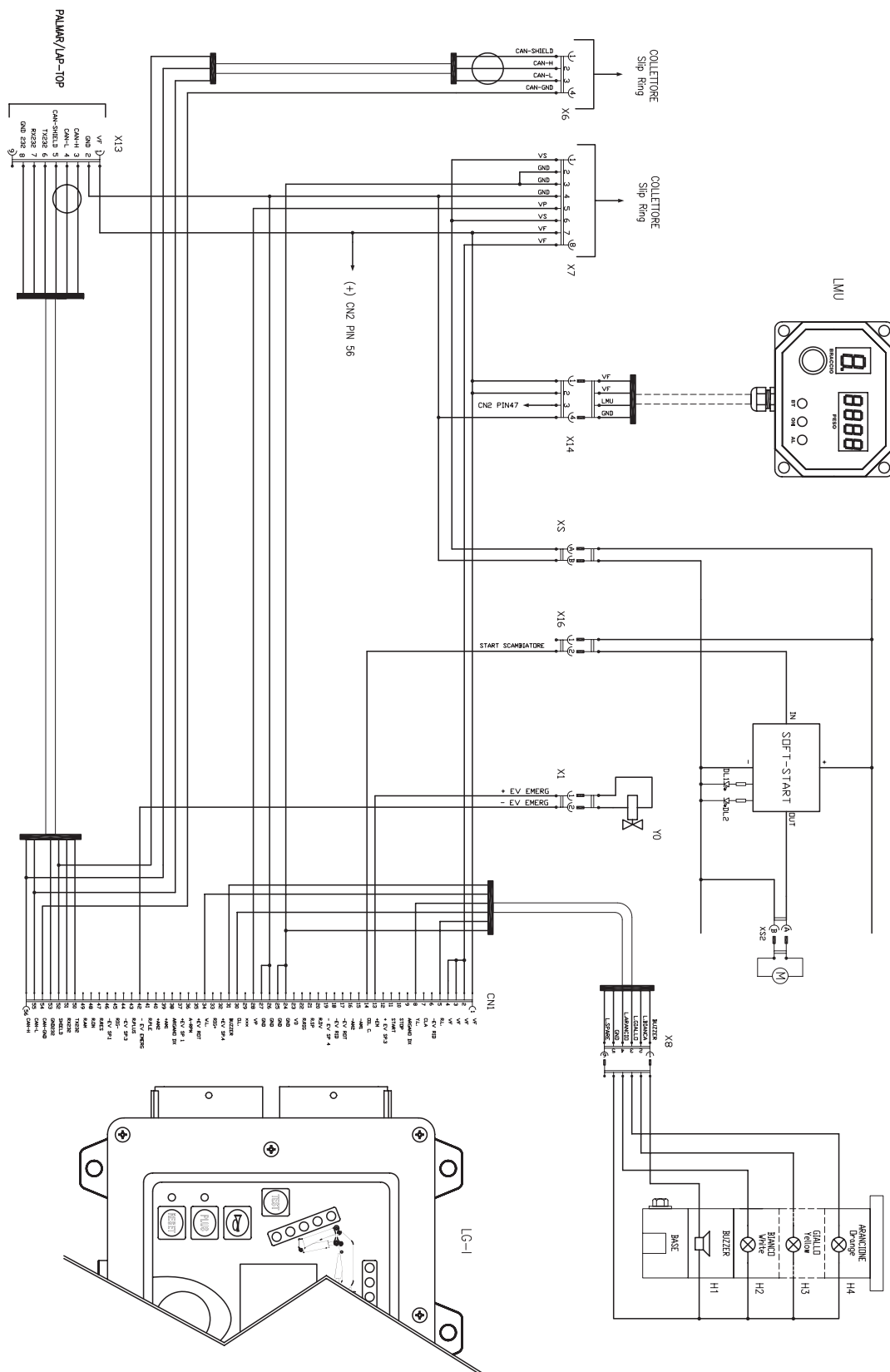


Fig.3-12

Fig.3-13

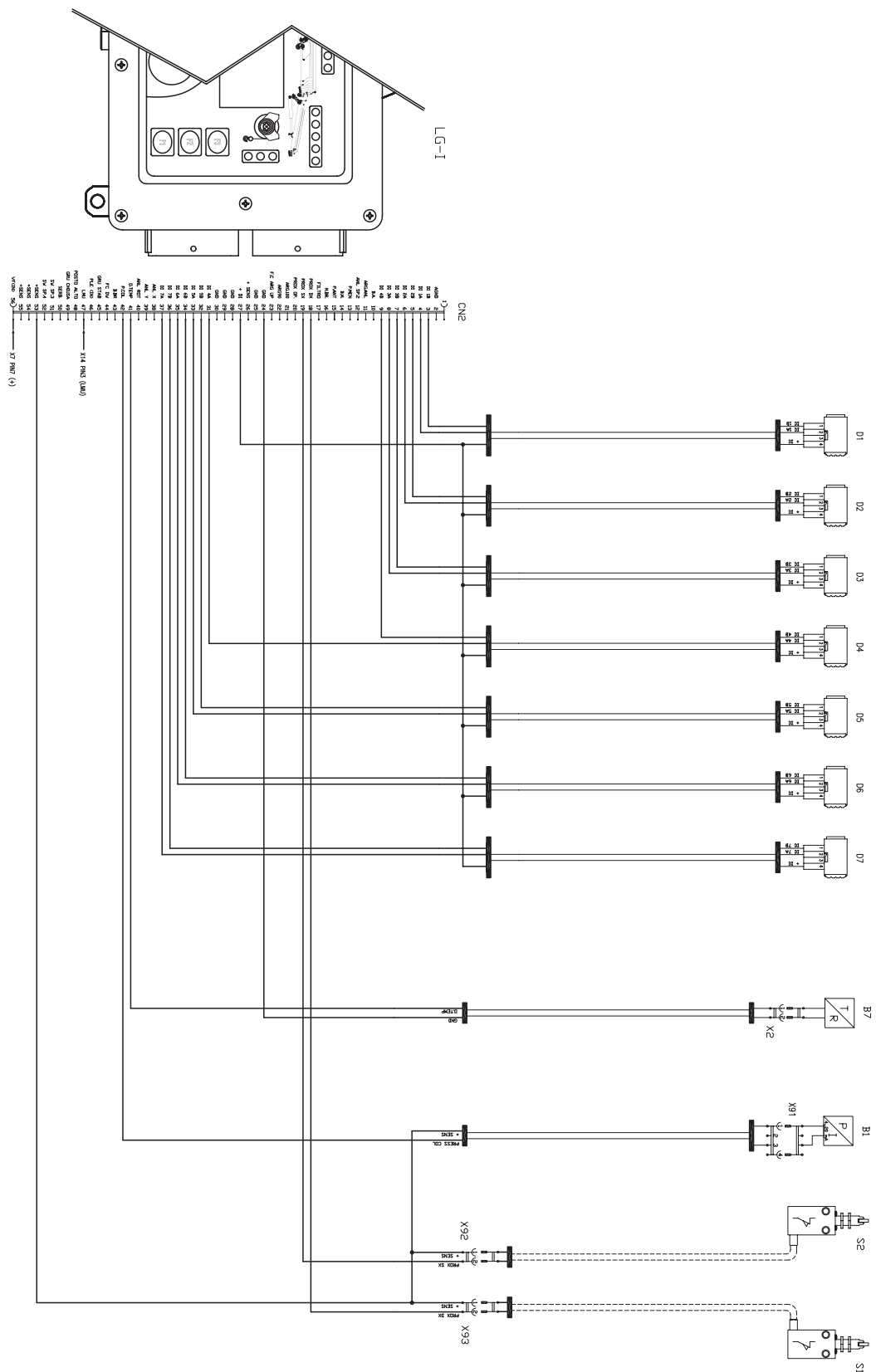


Fig.3-14

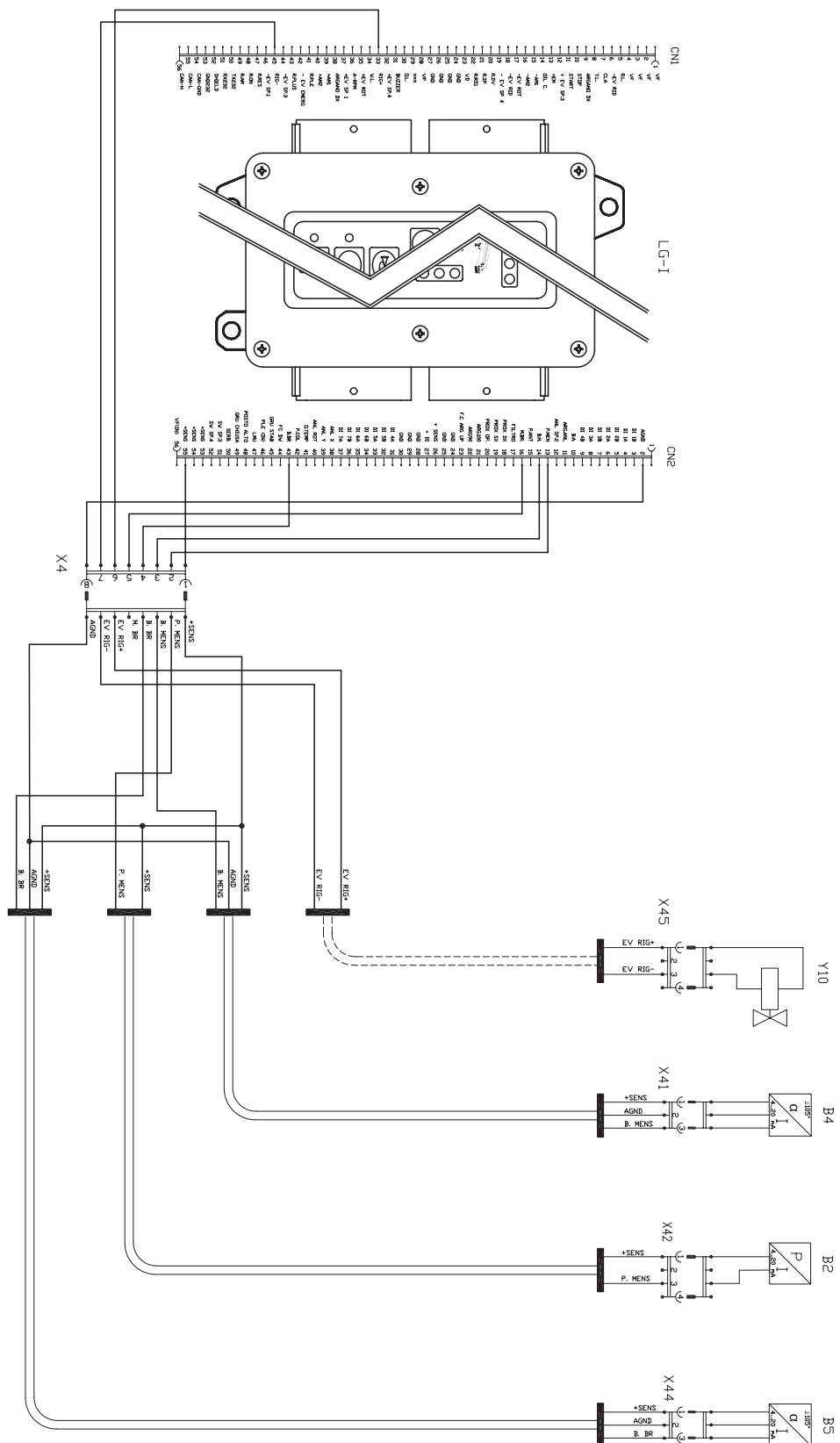


Fig.3-15



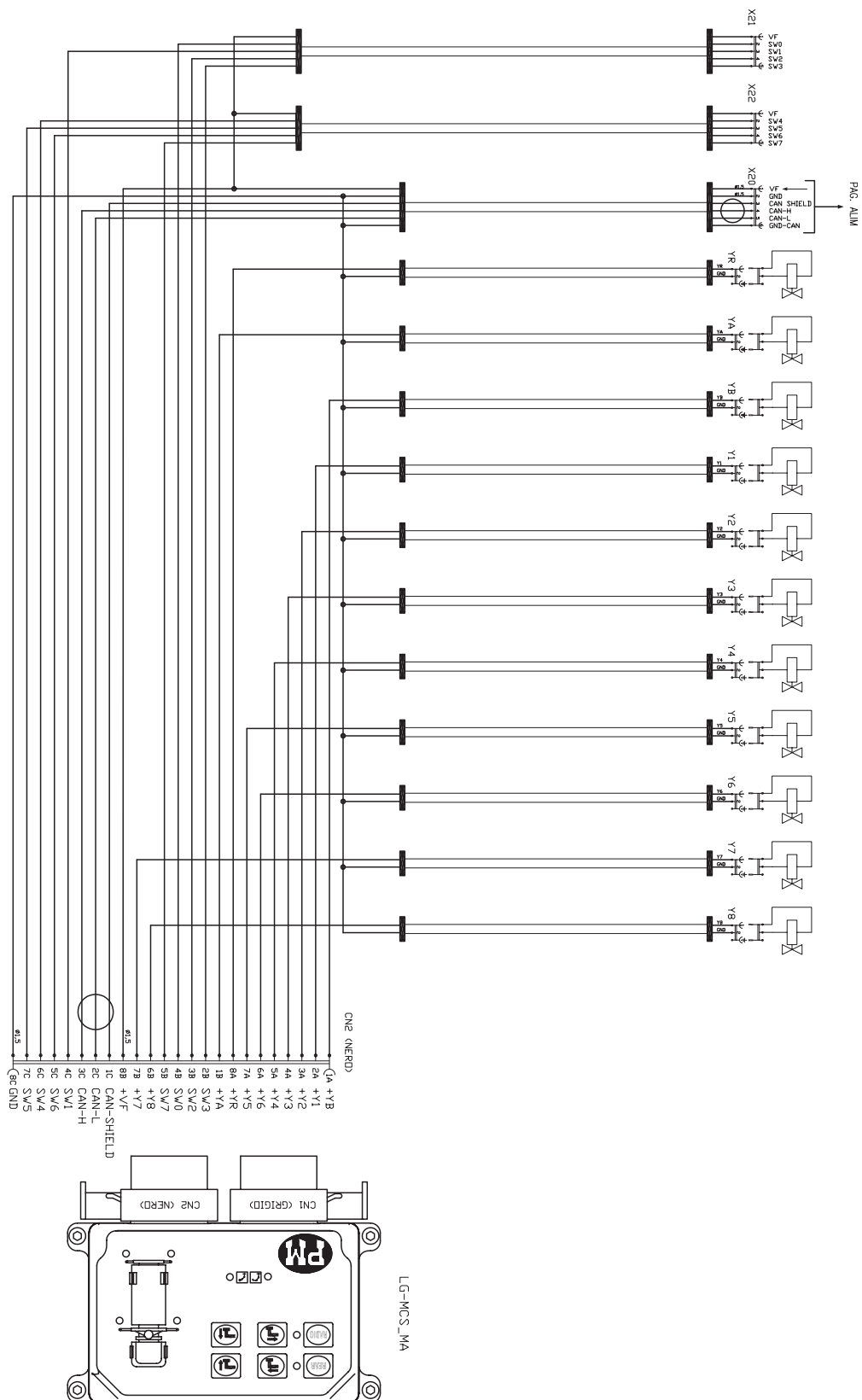


Fig.3-17

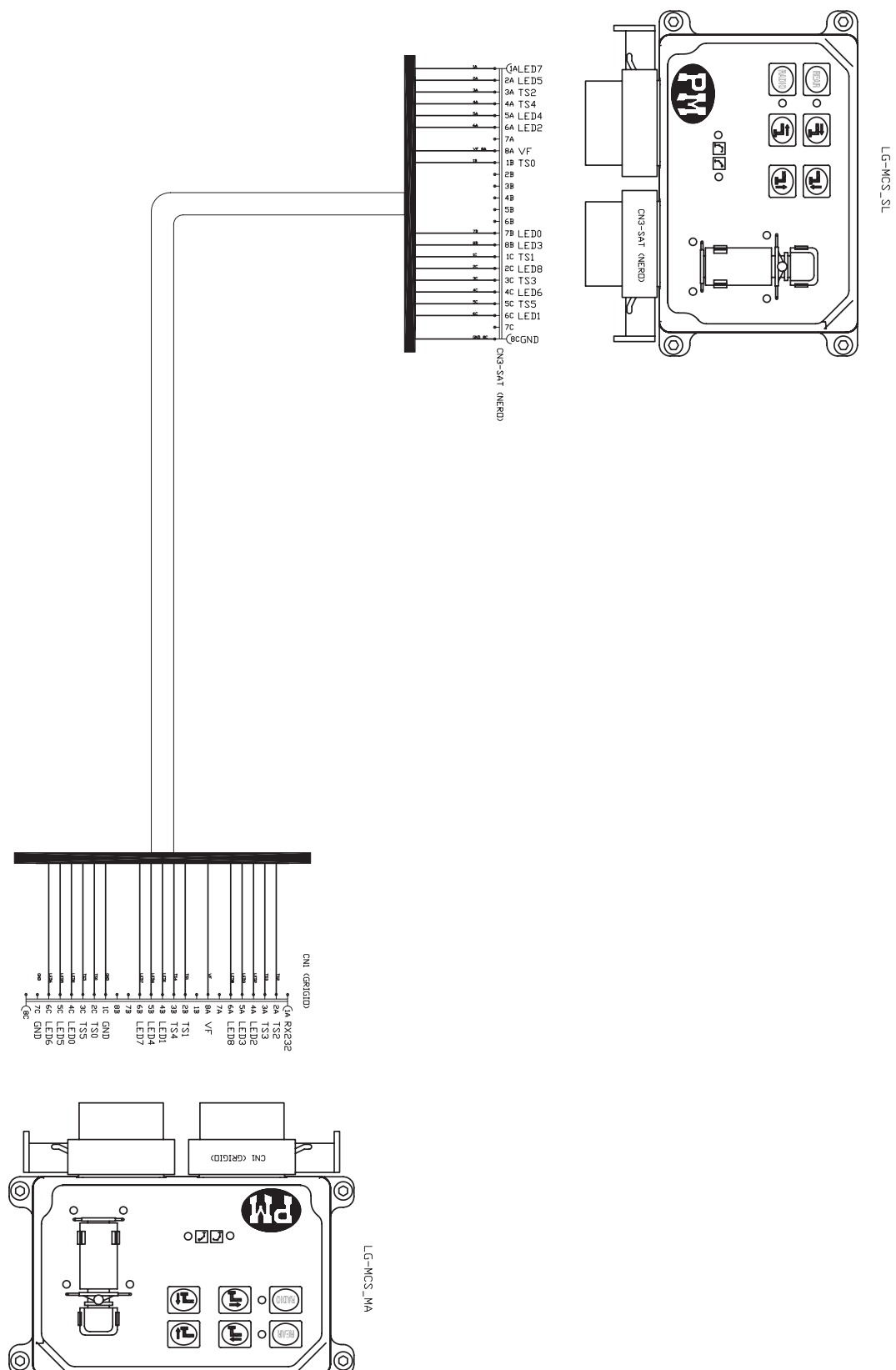
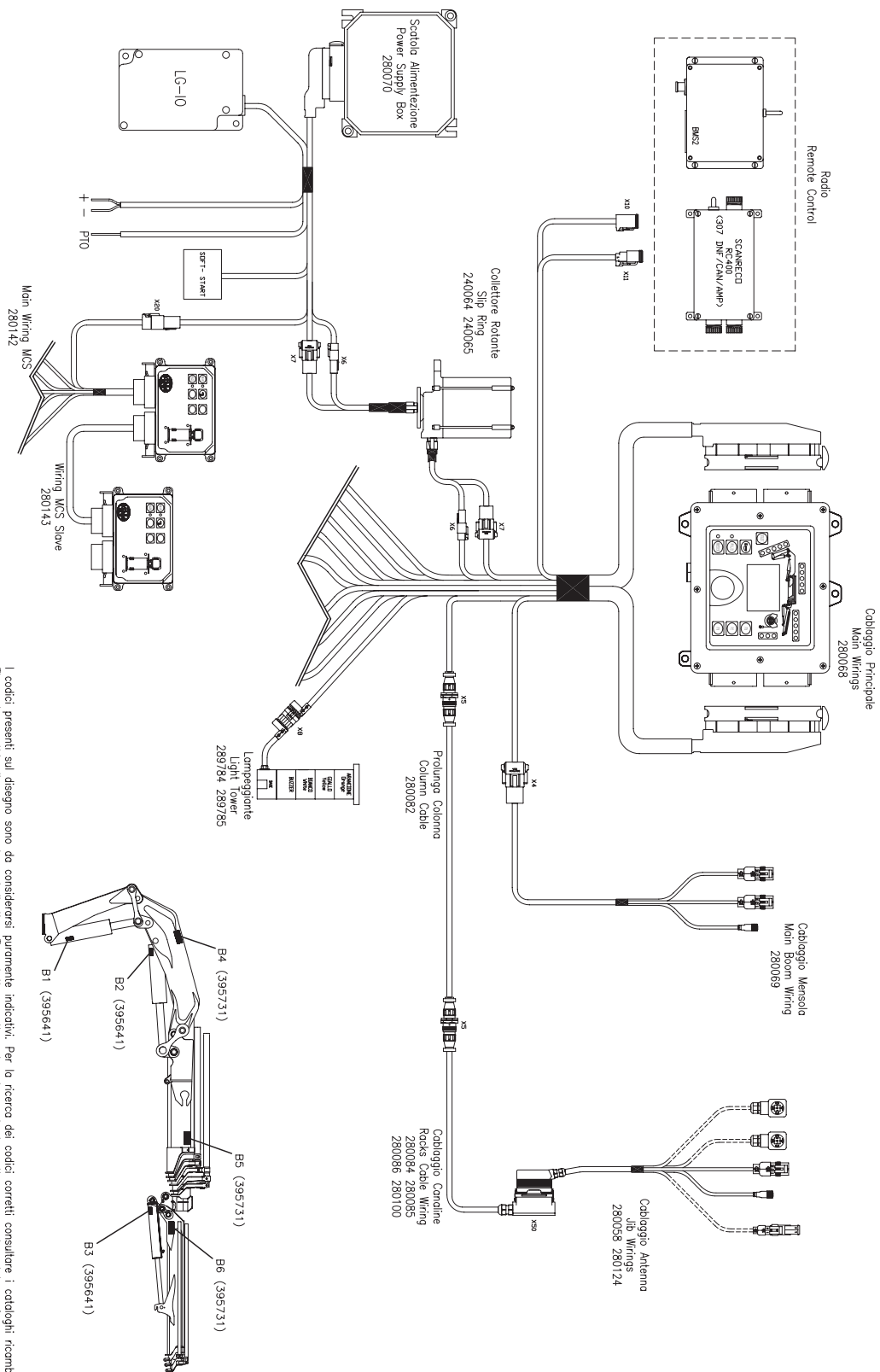


Fig.3-18



I codici presenti sul disegno sono da considerarsi puramente indicativi. Per la ricerca dei codici corretti consultare i cataloghi ricambi. The codes on this diagram are only an indication. To get the exactly codes please check on the spare parts catalogs of your crane.

Fig.3-19

Fig.3-20

| LEGENDA/LEGEND |                                 |                                    |     |
|----------------|---------------------------------|------------------------------------|-----|
| NOI/NAME       | FUNZIONE                        | FUNCTION                           |     |
| CN1            | CONNETTORE SINISTRO CENTRALINA  | RIGHT CONNECTOR CENTRAL UNIT       | D1  |
| CN2            | CONNETTORE DESTRO CENTRALINA    | LEFT CONNECTOR CENTRAL UNIT        | D2  |
| LG-1           | CENTRALINA POWER TRONIC         | POWER TRONIC MAIN UNIT             | D3  |
| LG-ID          | CENTRALINA INPUT OUTPUT         | INPUT OUTPUT UNIT                  | D4  |
| LG-MCS_MA      | MCS MASTER                      | MCS MASTER                         | D5  |
| LG-MCS_SL      | MCS SLAVE                       | MCS SLAVE                          | D6  |
| LG-SAT         | SATELLITE DOPPIO COMANDO        | SATELLITE OPPOSITE SIDE COMMAND    | D7  |
| LMU            | LMU                             | LMU                                |     |
| B1             | SENSORE PRESSIONE CILINDRO (P1) | CYLINDER PRESSURE TRANSD. (P1)     | Y0  |
| B2             | SENSORE PRESSIONE MENSOLA (P2)  | MAIN BDOM PRESSURE TRANSDUCER (P2) | Y10 |
| B3             | SENSORE PRESSIONE ANTENNA (P3)  | JIB PRESSURE TRANSDUCER (P3)       | Y60 |
| B4             | SENSORE ANGOLO MENSOLA (A1)     | MAIN ANGLE SENSOR (A1)             | Y61 |
| B5             | SENSORE ANGOLO BRACCI (A2)      | BDOM PACK ANGLE SENSOR (A2)        | YR  |
| B6             | SENSORE ANGOLO ANTENNA (A3)     | JIB ANGLE SENSOR (A3)              | YA  |
| B7             | SENSORE TEMPERATURA OLIO        | OIL TEMPERATURE SENSOR             | YB  |
| S0             | FILTRO                          | FILTER                             | Y1  |
| S1             | MICRO ROTAZIONE DX              | SLEEVING RIGHT MICROSWITCH         | Y2  |
| S2             | MICRO ROTAZIONE SX              | SLEEVING LEFT MICROSWITCH          | Y3  |
| S3             | MICRO FINECURSA SALITA ARGANO   | WINCH END STROKE-UP MICROSWITCH    | Y4  |
| S4             | MICRO FINECURSA DISCESA ARGANO  | WINCH END STROKE-DOWN MICROSWITCH  | Y5  |
| S5             | MICRO PACCO BRACCI RIENTRATO    | BDOM PACK FOLDED MICROSWITCH       | Y6  |
| M              | VENTOLA SCAMBIATORE             | OIL COOLER FAN                     | Y7  |
|                |                                 |                                    | Y8  |
| H1             | CICALINO                        | BUZZER                             |     |
| H2             | LUCE BIANCA                     | WHITE LIGHT                        |     |
| H3             | LUCE GIALLA                     | YELLOW LIGHT                       |     |
| H4             | LUCE ARANCIO                    | ORANGE LIGHT                       |     |

| NOI/NAME | FUNZIONE                          | FUNCTION                       |  |
|----------|-----------------------------------|--------------------------------|--|
| D1       | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |  |
| D2       | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |  |
| D3       | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |  |
| D4       | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |  |
| D5       | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |  |
| D6       | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |  |
| D7       | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |  |
|          |                                   |                                |  |
| Y0       | ELETTROVALVOLA DI EMERGENZA (EV9) | EMERGENCY VALVE (EV9)          |  |
| Y10      | ELETTROVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |  |
| Y60      | AM1                               | MA1                            |  |
| Y61      | AM2                               | MA2                            |  |
| YR       | ELETTROVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |  |
| YA       | ELETTROVALVOLA DIR. A             | OUT SOLENOID VALVE             |  |
| YB       | ELETTROVALVOLA DIR. B             | IN SOLENOID VALVE              |  |
| Y1       | ELETTROVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |  |
| Y2       | ELETTROVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |  |
| Y3       | ELETTROVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |  |
| Y4       | ELETTROVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |  |
| Y5       | ELETTROVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |  |
| Y6       | ELETTROVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |  |
| Y7       | ELETTROVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |  |
| Y8       | ELETTROVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |  |
|          |                                   |                                |  |
|          |                                   |                                |  |

**GRU PM 65 SP PT**  
**CRANE PM 65 SP PT**  
**POWER TRONIC**

**GRU STD - (ANTENNA) - ATTIVAZIONE MULTIPLA - RADIO SCANRECO**  
**CRANE STD - (JIB) - MULTIPLE ACTIVATE DEVICE - REMOTE CONTROL SCANRECO**

**COD.**

**282524**  
**282527**  
**282529**  
**282525**  
**282526**  
**282555**  
**282535**  
**282536**  
**282569**  
**282544**

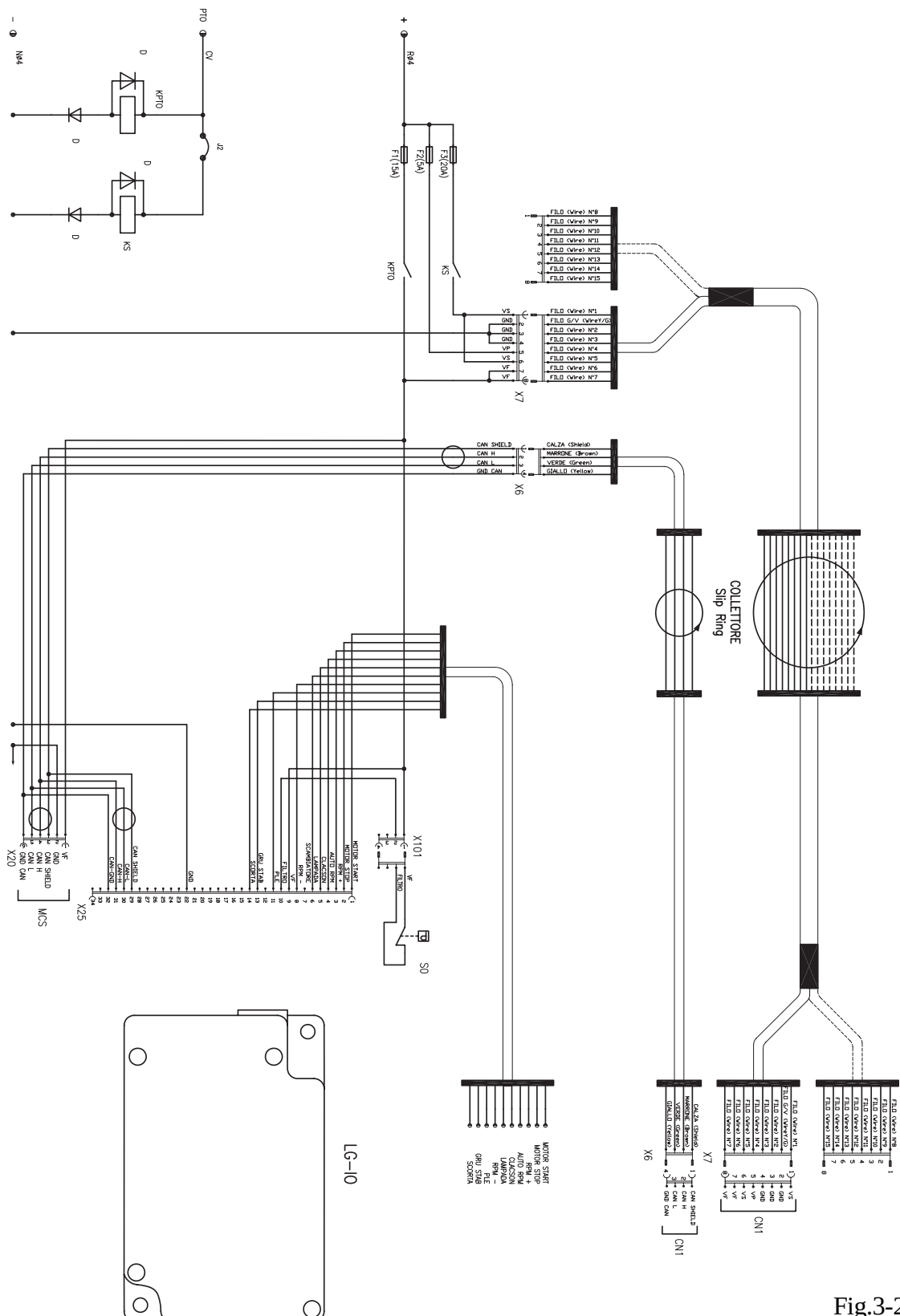


Fig.3-21

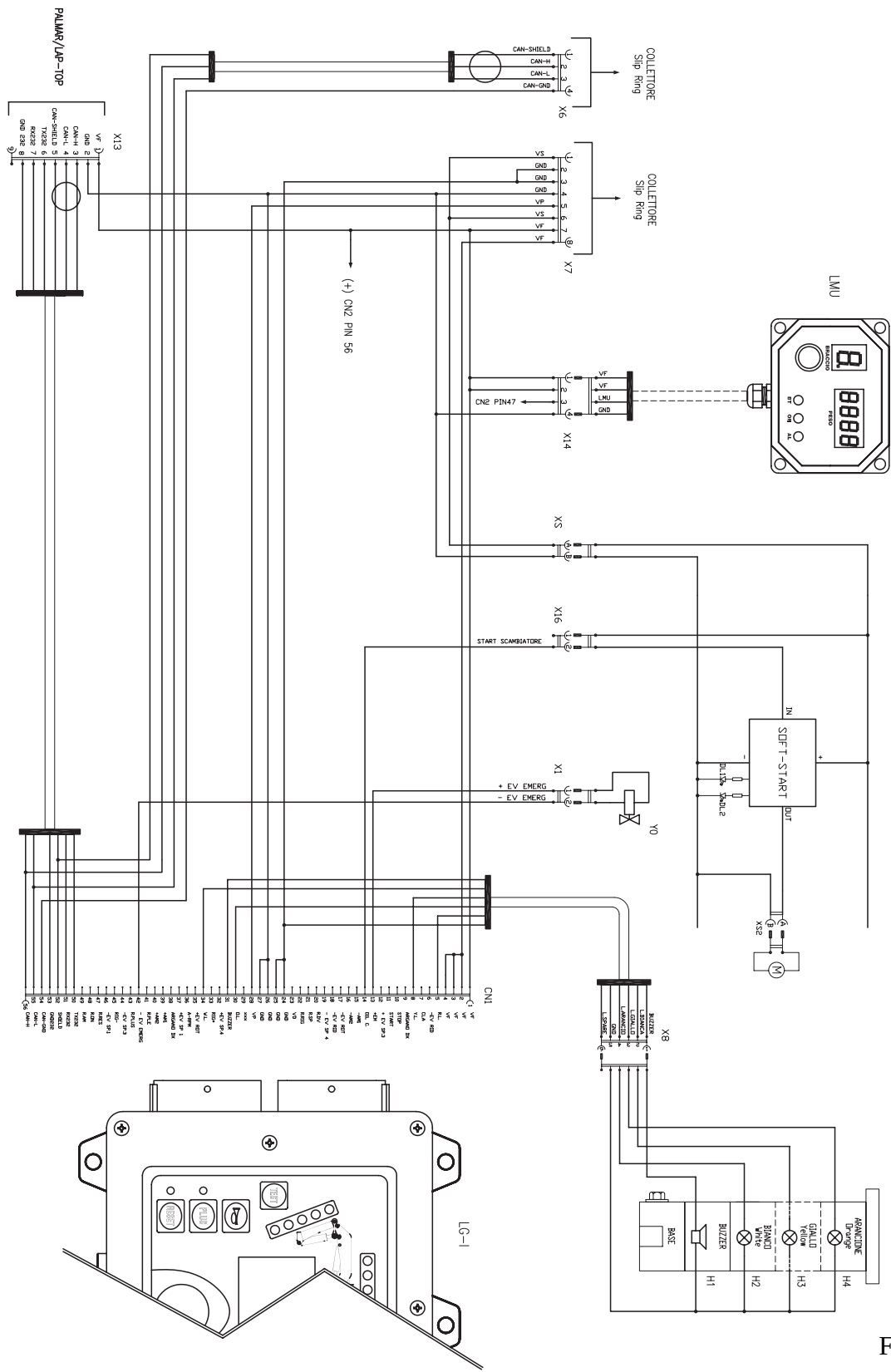


Fig.3-22

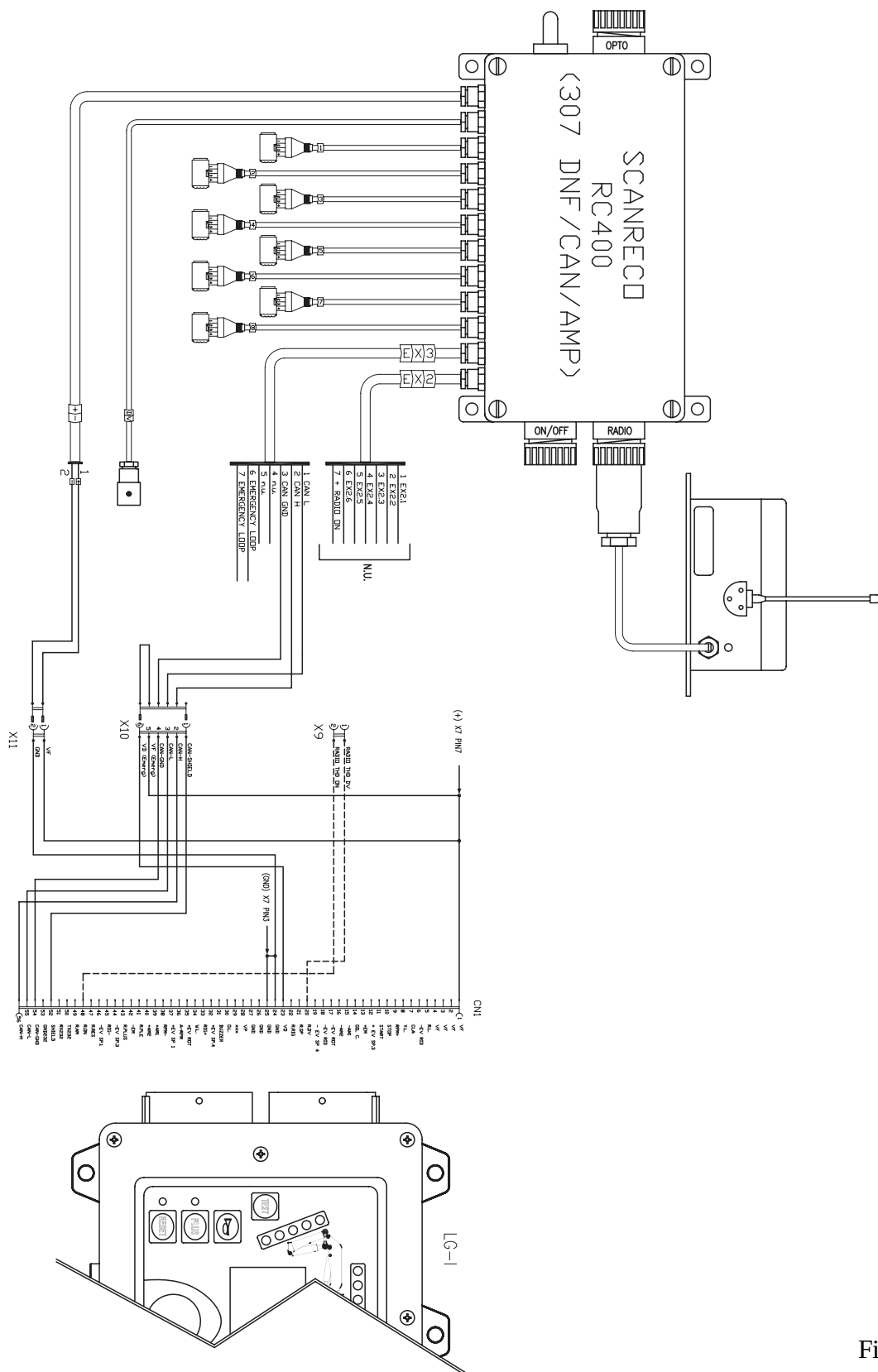


Fig.3-23

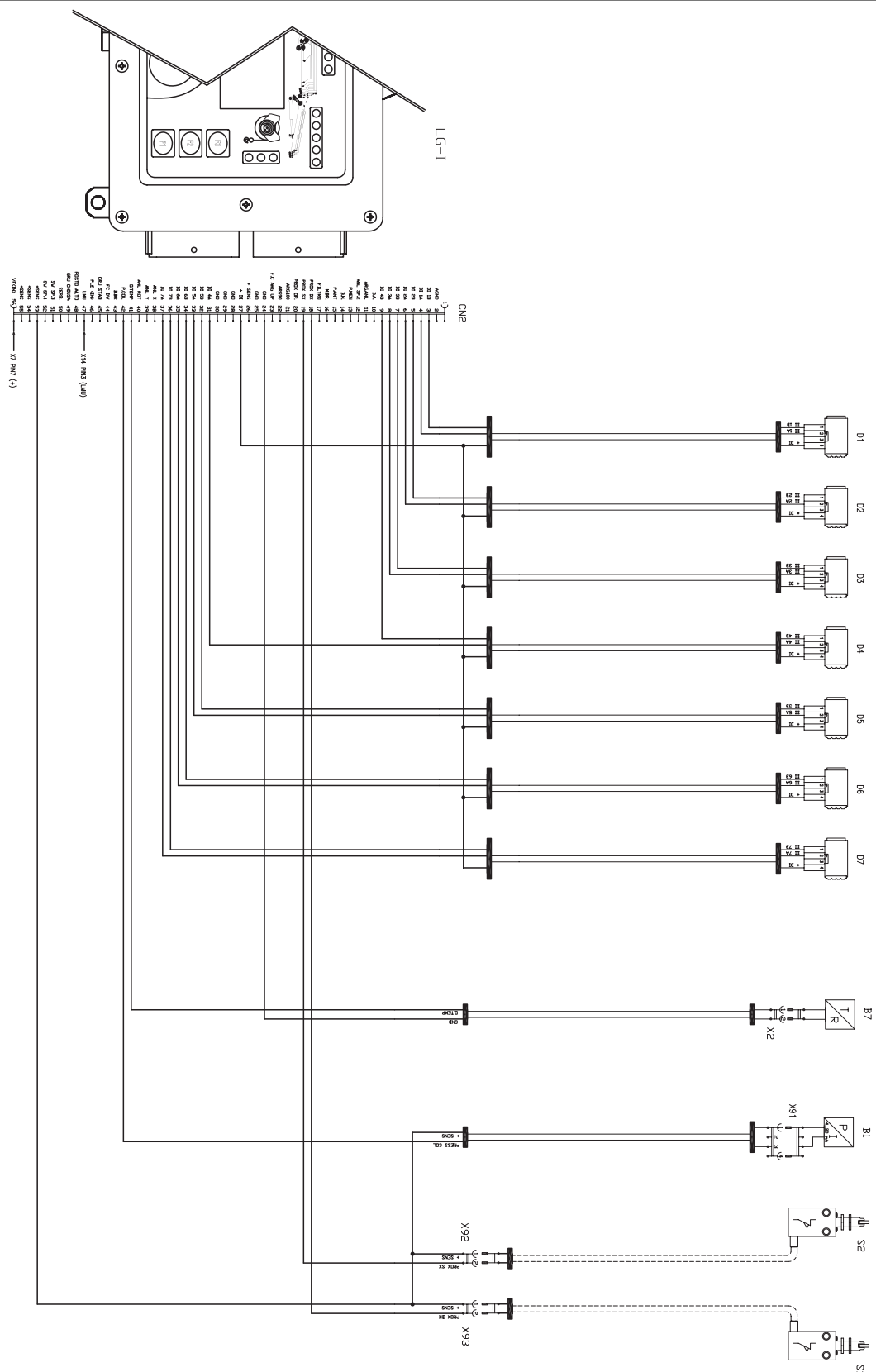


Fig.3-24

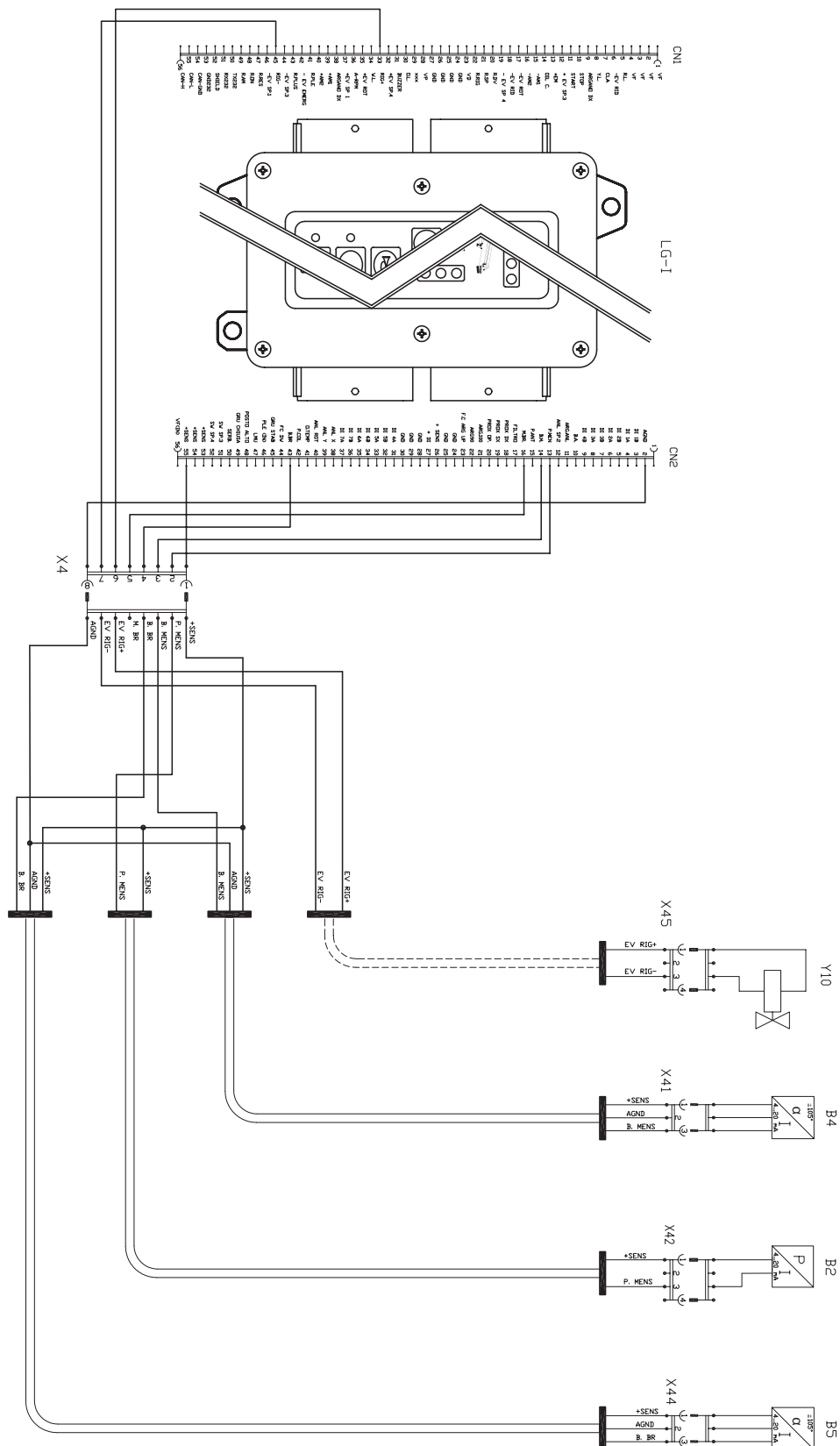


Fig.3-25

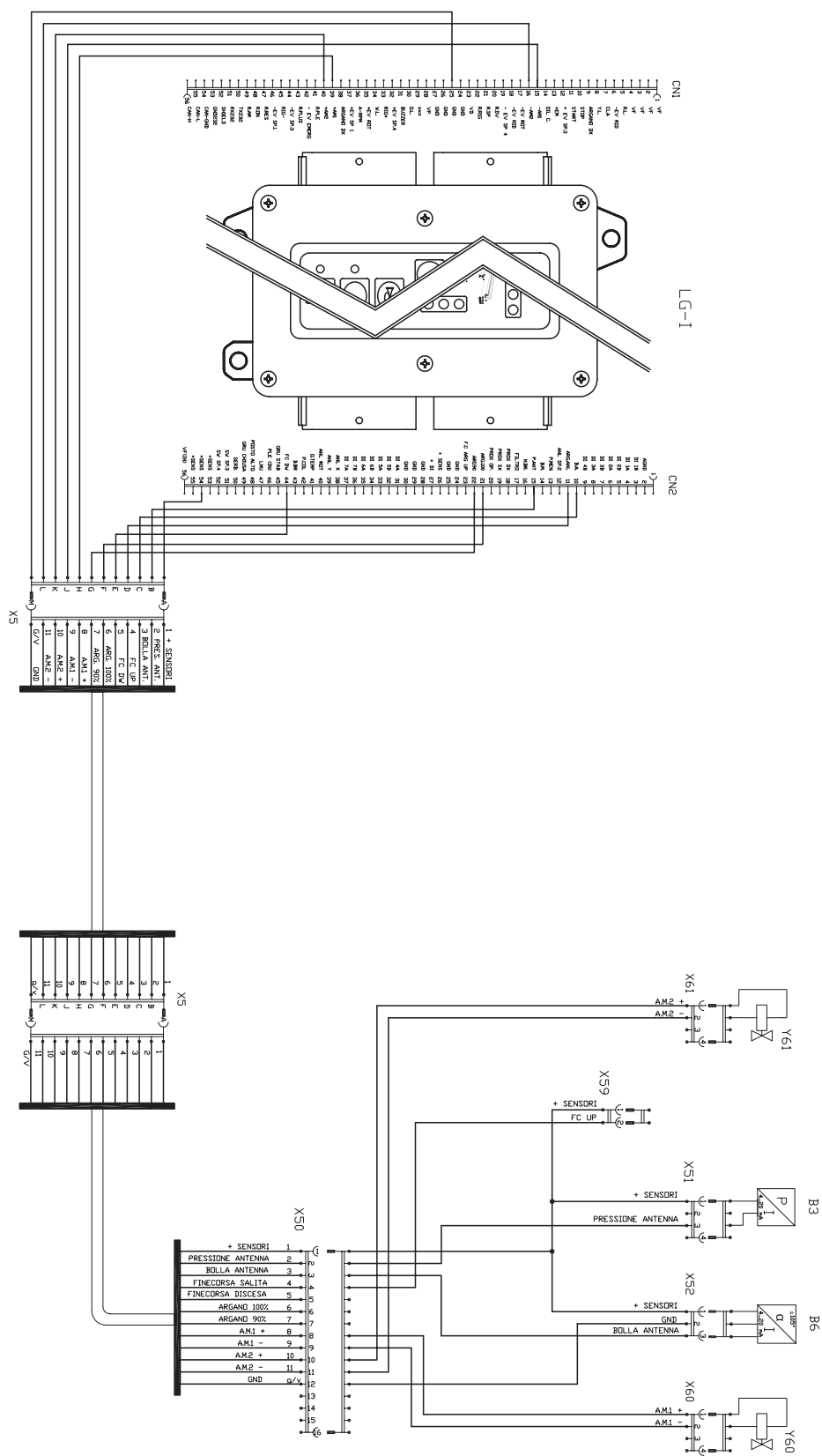


Fig.3-26

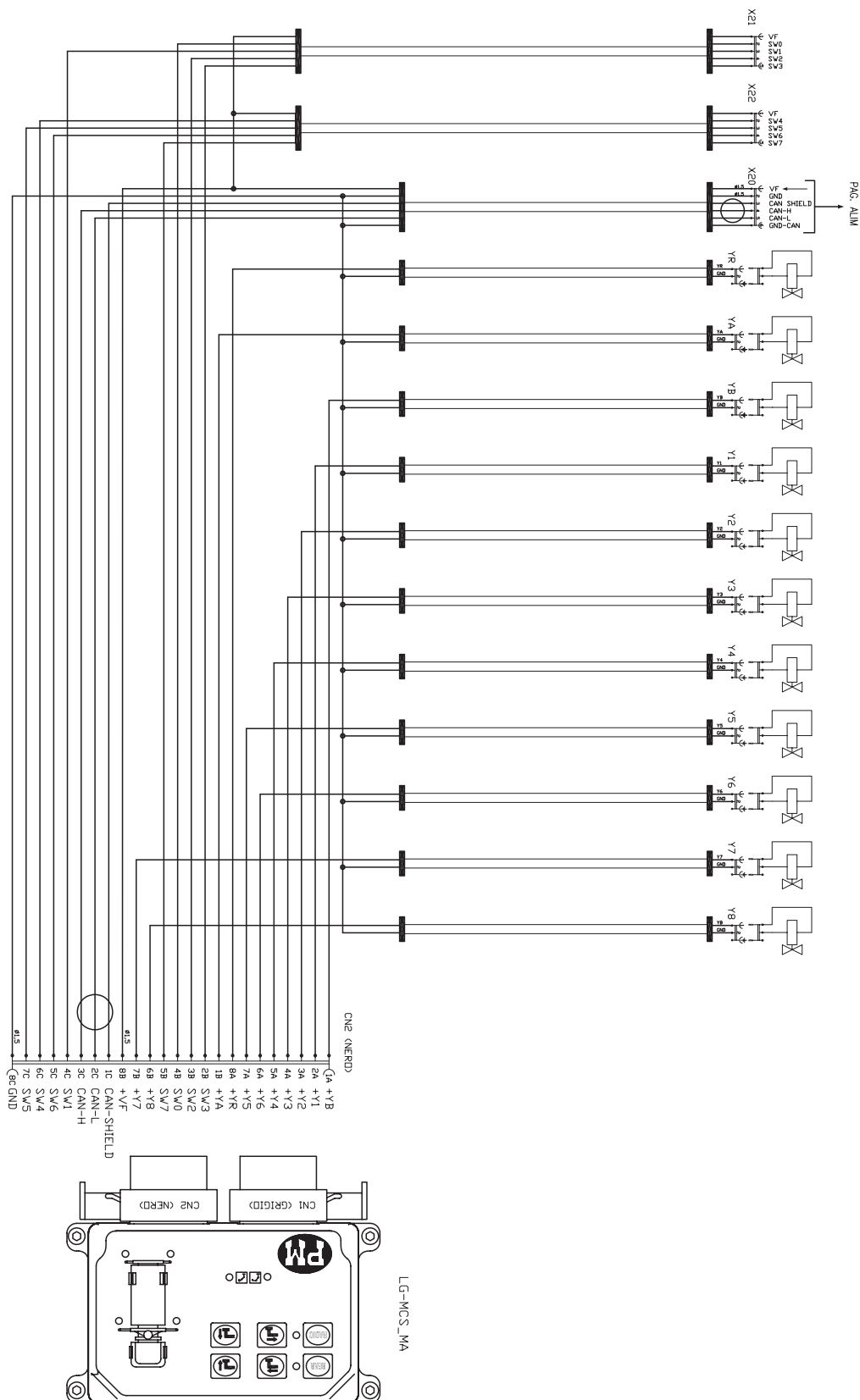


Fig.3-27

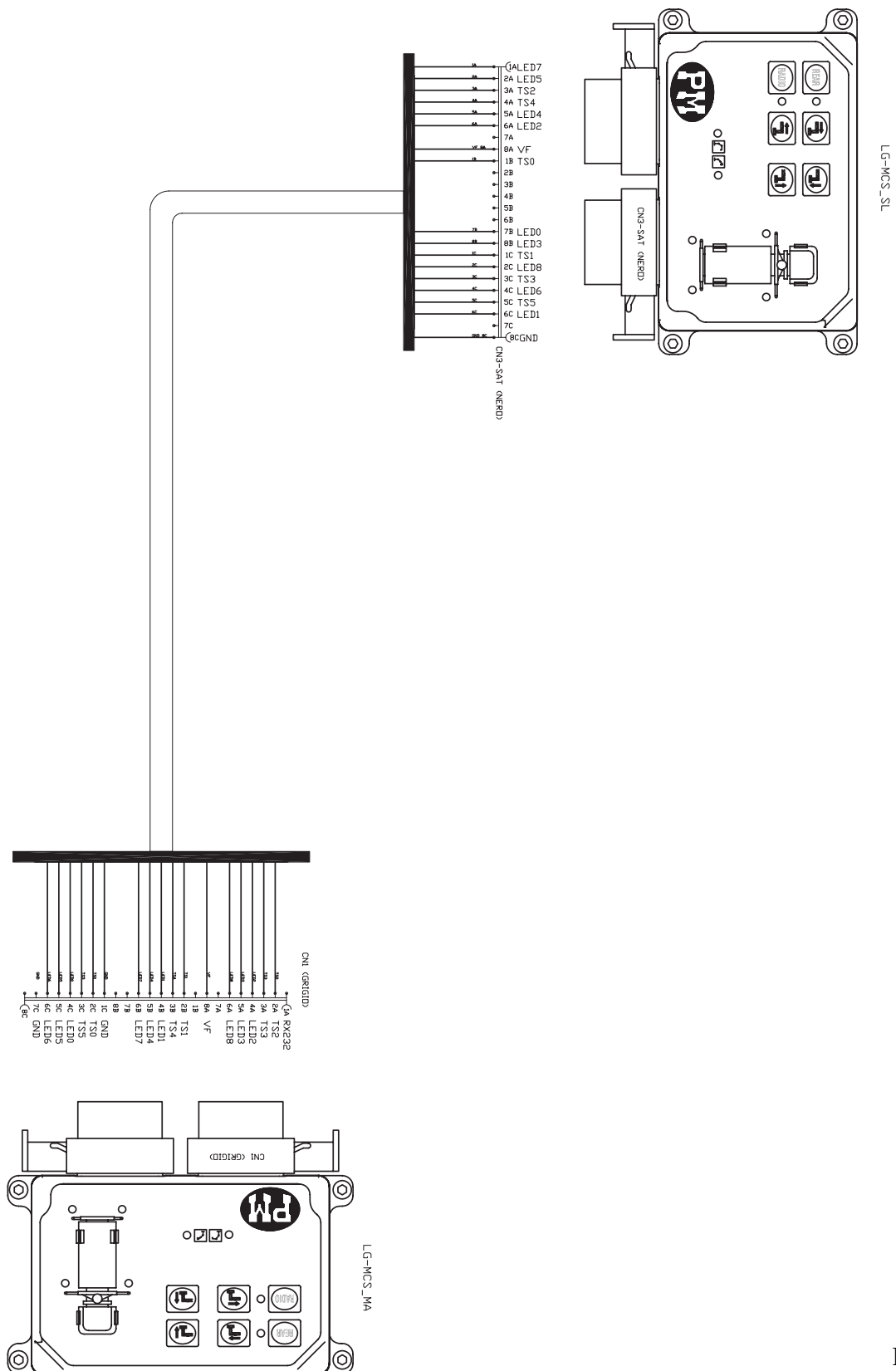
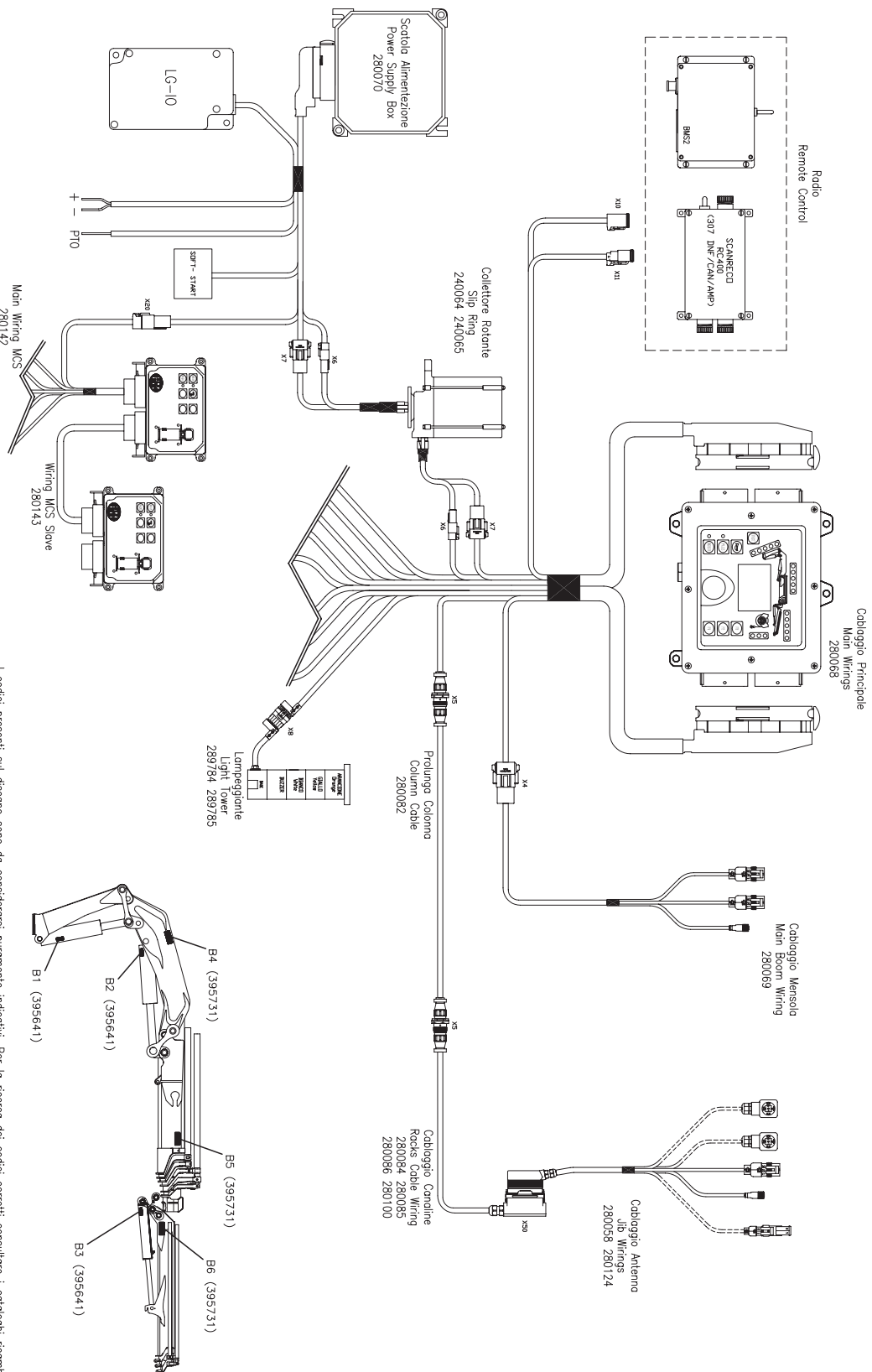


Fig.3-28



I codici presenti sul disegno sono da considerarsi puramente indicativi. Per la ricerca dei codici corretti consultare i cataloghi ricambi. The codes on this diagram are only an indication. To get the exactly codes please check on the spare parts catalogs of your crane.

Fig.3-29

Fig.3-30

| LEGENDA/LEGEND |                                 |                                    |           |                                   |                                |
|----------------|---------------------------------|------------------------------------|-----------|-----------------------------------|--------------------------------|
| NAME/NAME      | FUNZIONE                        | FUNCTION                           | NAME/NAME | FUNZIONE                          | FUNCTION                       |
| CN1            | CONNETTORE SINISTRO CENTRALINA  | RIGHT CONNECTOR CENTRAL UNIT       | D1        | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |
| CN2            | CONNETTORE DESTRO CENTRALINA    | LEFT CONNECTOR CENTRAL UNIT        | D2        | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |
| LG-1           | CENTRALINA POWER TRONIC         | POWER TRONIC MAIN UNIT             | D3        | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |
| LG-ID          | CENTRALINA INPUT OUTPUT         | INPUT OUTPUT UNIT                  | D4        | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |
| LG-MCS_MA      | MCS MASTER                      | MCS MASTER                         | D5        | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |
| LG-MCS_SL      | MCS SLAVE                       | MCS SLAVE                          | D6        | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |
| LG-SAT         | SATELLITE DOPPIO COMANDO        | SATELLITE OPPOSITE SIDE COMMAND    | D7        | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |
| LMU            | LMU                             | LMU                                |           |                                   |                                |
| B1             | SENSORE PRESSIONE CILINDRO (P1) | CYLINDER PRESSURE TRANSD. (P1)     | Y0        | ELETTRIVALVOLA DI EMERGENZA (EV9) | EMERGENCY VALVE (EV9)          |
| B2             | SENSORE PRESSIONE MENSOLA (P2)  | MAIN BOOM PRESSURE TRANSDUCER (P2) | Y10       | ELETTRIVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |
| B3             | SENSORE PRESSIONE ANTENNA (P3)  | JIB PRESSURE TRANSDUCER (P3)       | Y60       | AM1                               | MA1                            |
| B4             | SENSORE ANGOLO MENSOLA (A1)     | MAIN ANGLE SENSOR (A1)             | Y61       | AM2                               | MA2                            |
| B5             | SENSORE ANGOLO BRACCIO (A2)     | BOOM PACK ANGLE SENSOR (A2)        |           |                                   |                                |
| B6             | SENSORE ANGOLO ANTENNA (A3)     | JIB ANGLE SENSOR (A3)              | YR        | ELETTRIVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |
| B7             | SENSORE TEMPERATURA OLIO        | OIL TEMPERATURE SENSOR             | YA        | ELETTRIVALVOLA DIR A              | OUT SOLENOID VALVE             |
|                |                                 |                                    | YB        | ELETTRIVALVOLA DIR B              | IN SOLENOID VALVE              |
|                |                                 |                                    | Y1        | ELETTRIVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |
|                |                                 |                                    | Y2        | ELETTRIVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |
| S0             | FILTRO                          | FILTER                             | Y3        | ELETTRIVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |
| S1             | MICRO ROTAZIONE DX              | SLEEVING RIGHT MICROSWITCH         | Y4        | ELETTRIVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |
| S2             | MICRO ROTAZIONE SX              | SLEEVING LEFT MICROSWITCH          | Y5        | ELETTRIVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |
| S3             | MICRO FINECORSA SALITA ARGANO   | WINCH END STROKE-UP MICROSWITCH    | Y6        | ELETTRIVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |
| S4             | MICRO FINECORSA DISCESA ARGANO  | WINCH END STROKE-DOWN MICROSWITCH  | Y7        | ELETTRIVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |
| S5             | MICRO PACCO BRACCI RIENTRATO    | BOOM PACK FOLDED MICROSWITCH       | Y8        | ELETTRIVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |
|                |                                 |                                    |           |                                   |                                |
| M              | VENTILLO SCAMBIATORE            | OIL COOLER FAN                     |           |                                   |                                |
|                |                                 |                                    |           |                                   |                                |
| H1             | CICALINO                        | BUZZER                             |           |                                   |                                |
| H2             | LUCE BIANCA                     | WHITE LIGHT                        |           |                                   |                                |
| H3             | LUCE GIALLA                     | YELLOW LIGHT                       |           |                                   |                                |
| H4             | LUCE ARANCIO                    | ORANGE LIGHT                       |           |                                   |                                |

**GRU PM 65 SP PT**  
**CRANE PM 65 SP PT**  
**POWER TRONIC**

**GRU STD - (ANTENNA) - ATTIVAZIONE MULTIPLA - RADIO HETRONIC**  
**CRANE STD - (JIB) - MULTIPLE ACTIVATE DEVICE - REMOTE CONTROL HETRONIC**

**COD.**

**282524**  
**282527**  
**282530**  
**282525**  
**282526**  
**282555**  
**282535**  
**282536**  
**282569**  
**282544**

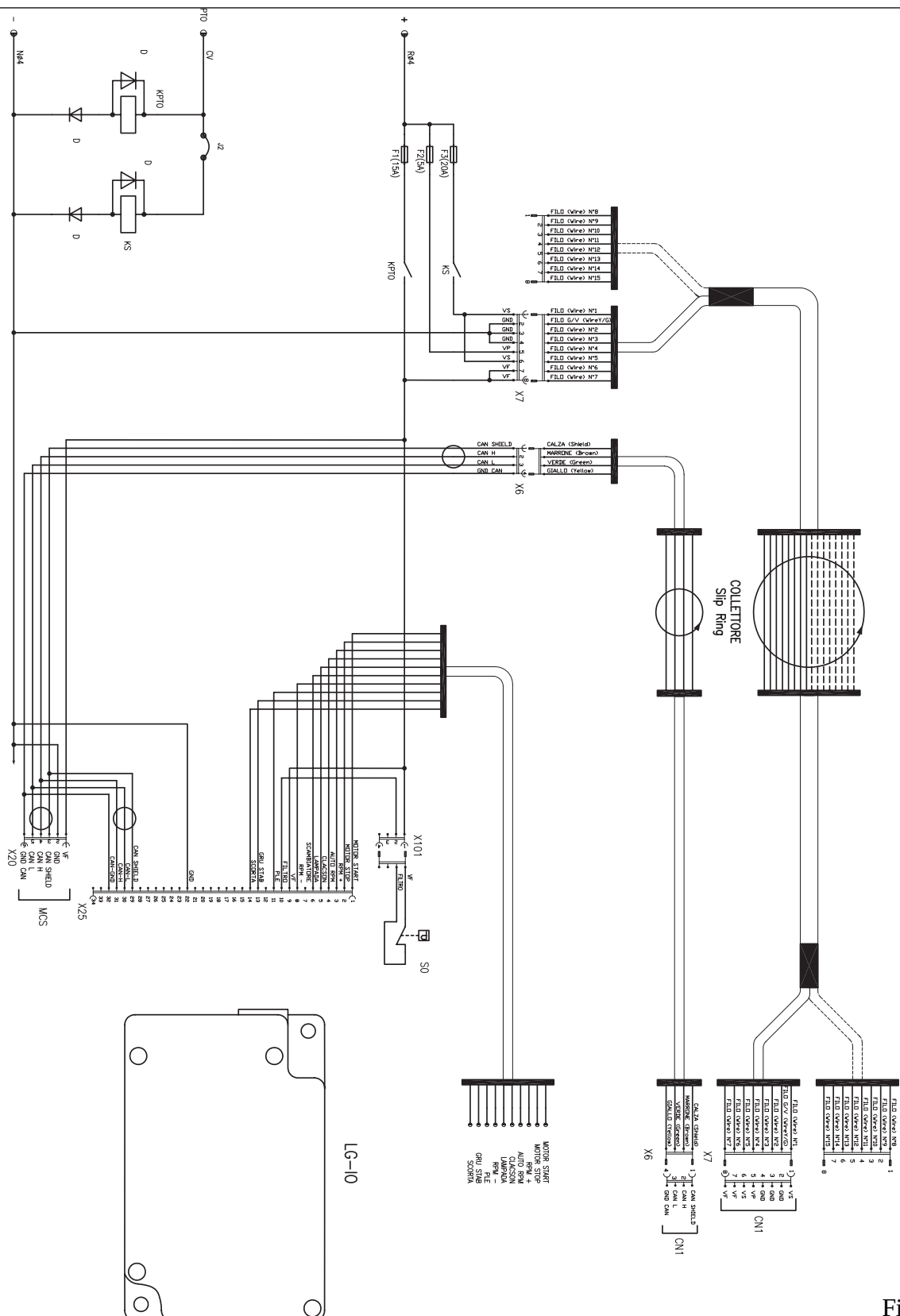
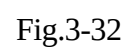


Fig.3-31



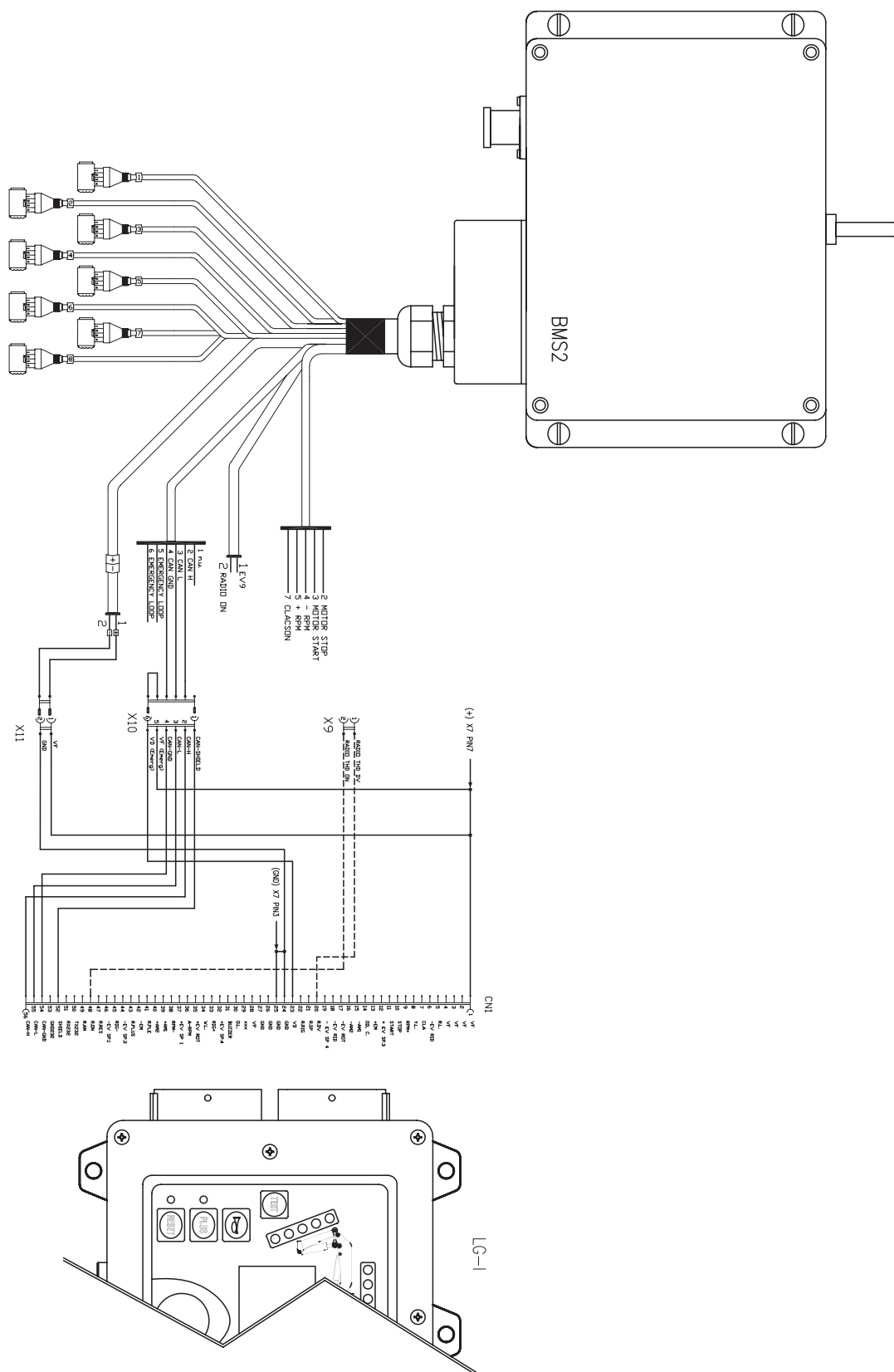


Fig.3-33

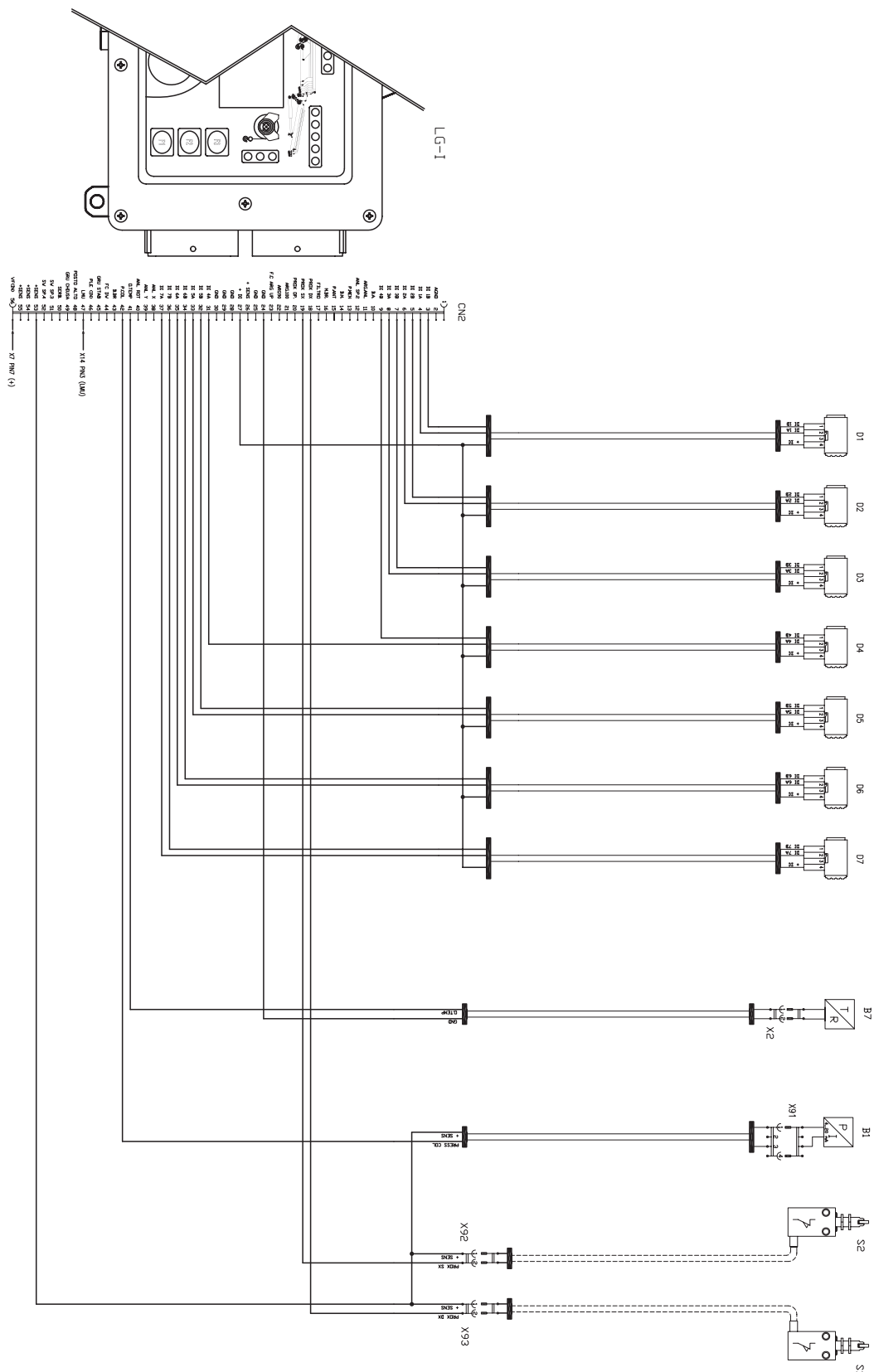


Fig.3-34

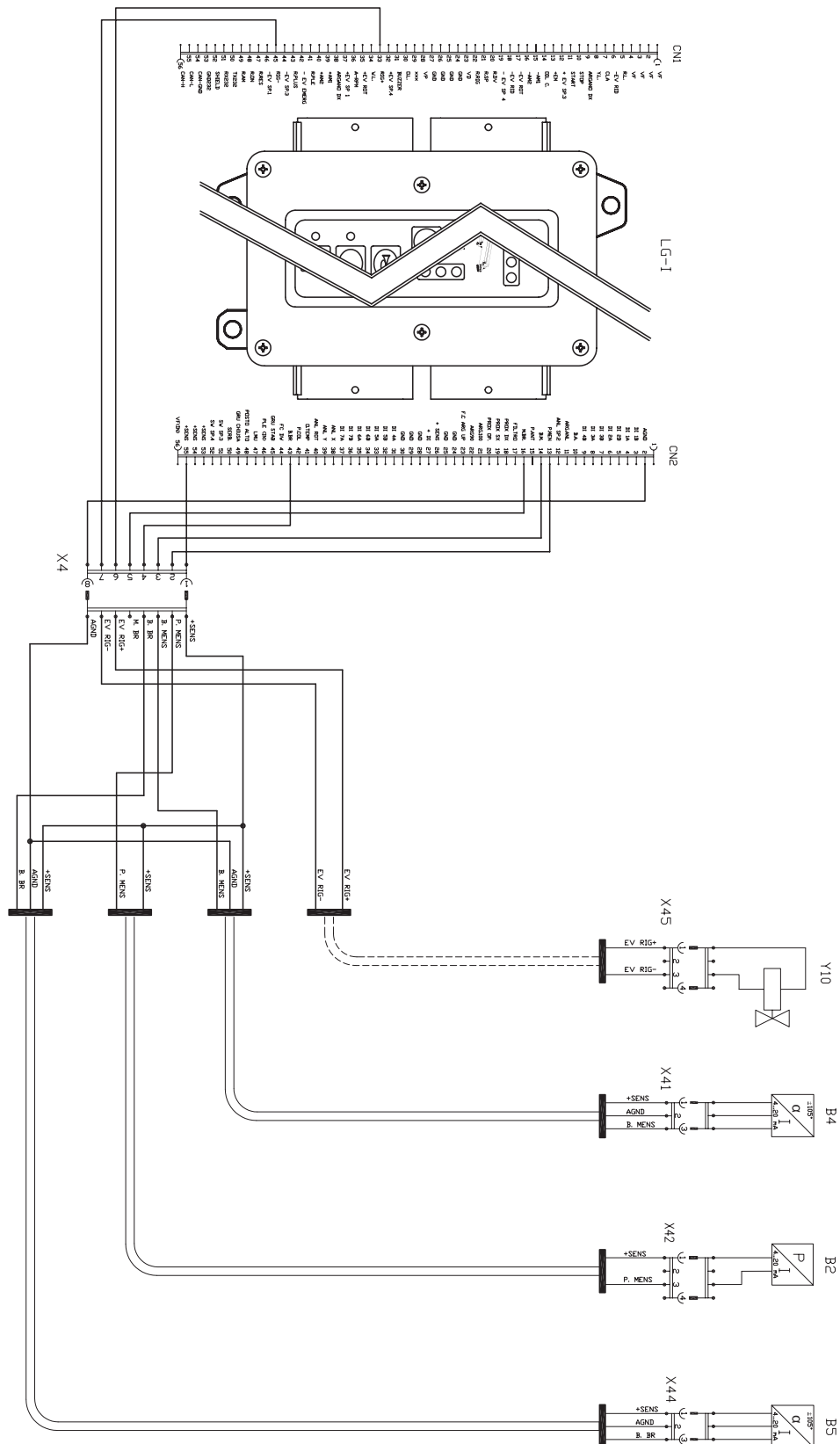


Fig.3-35

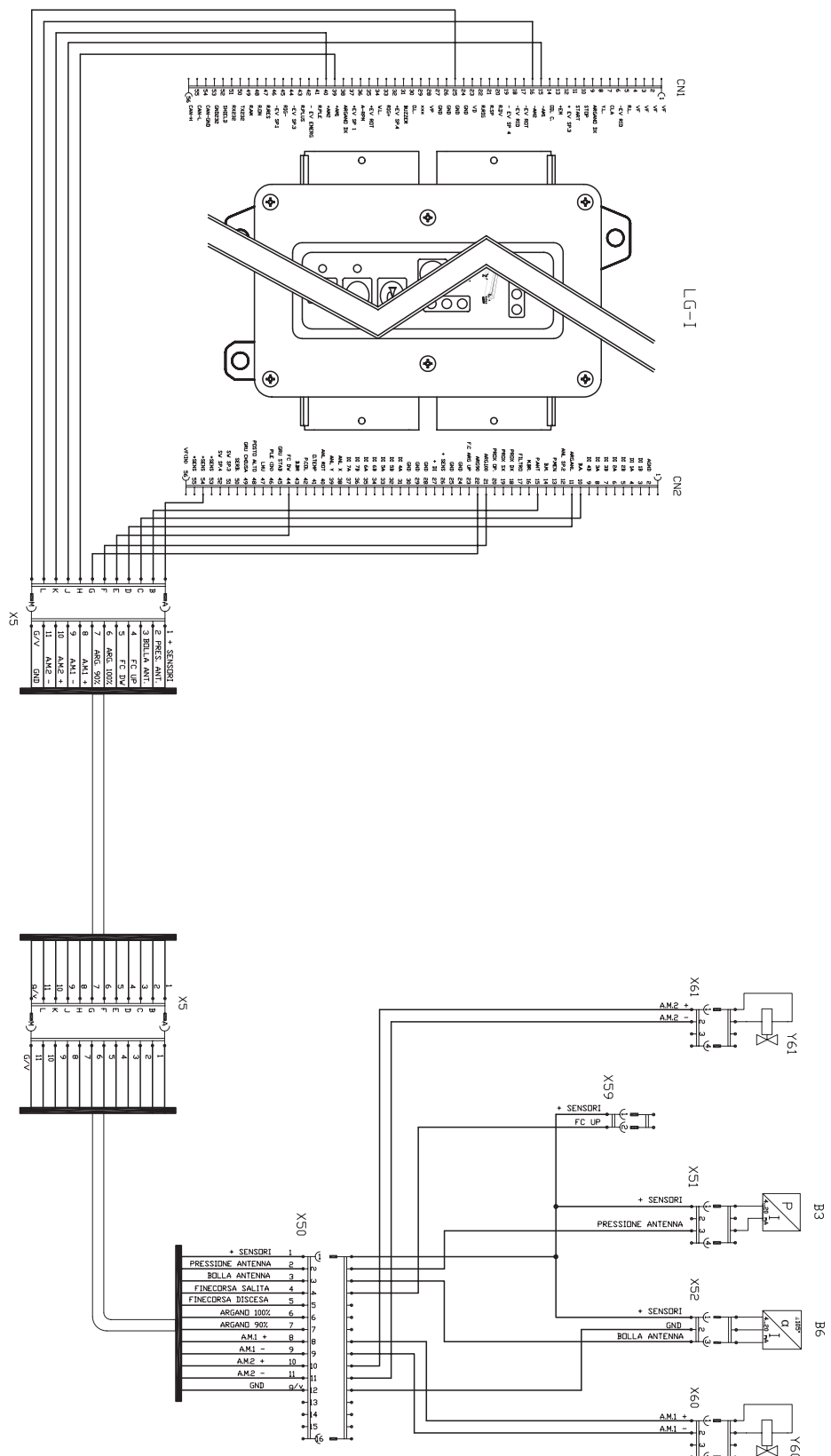


Fig.3-36

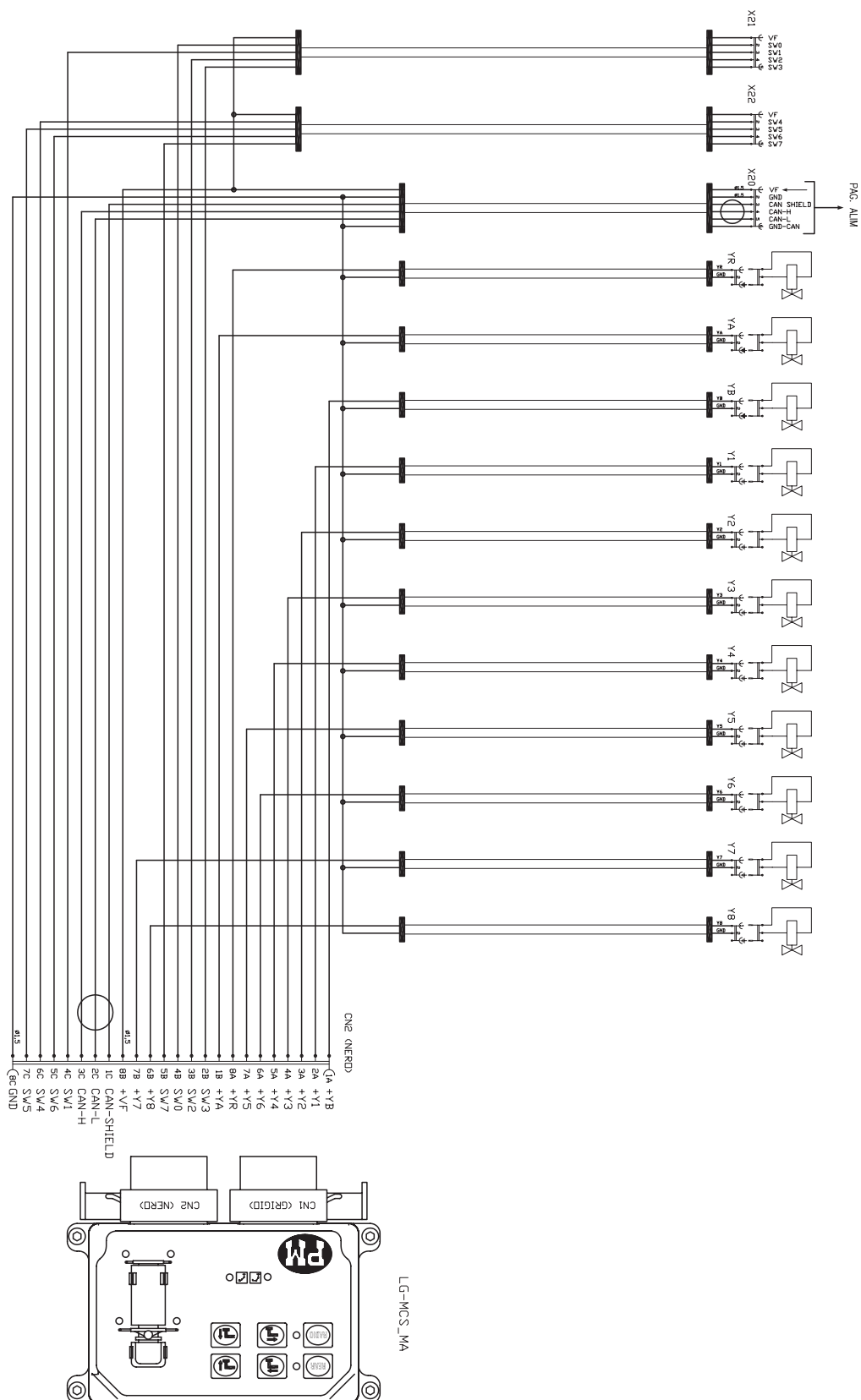


Fig.3-37



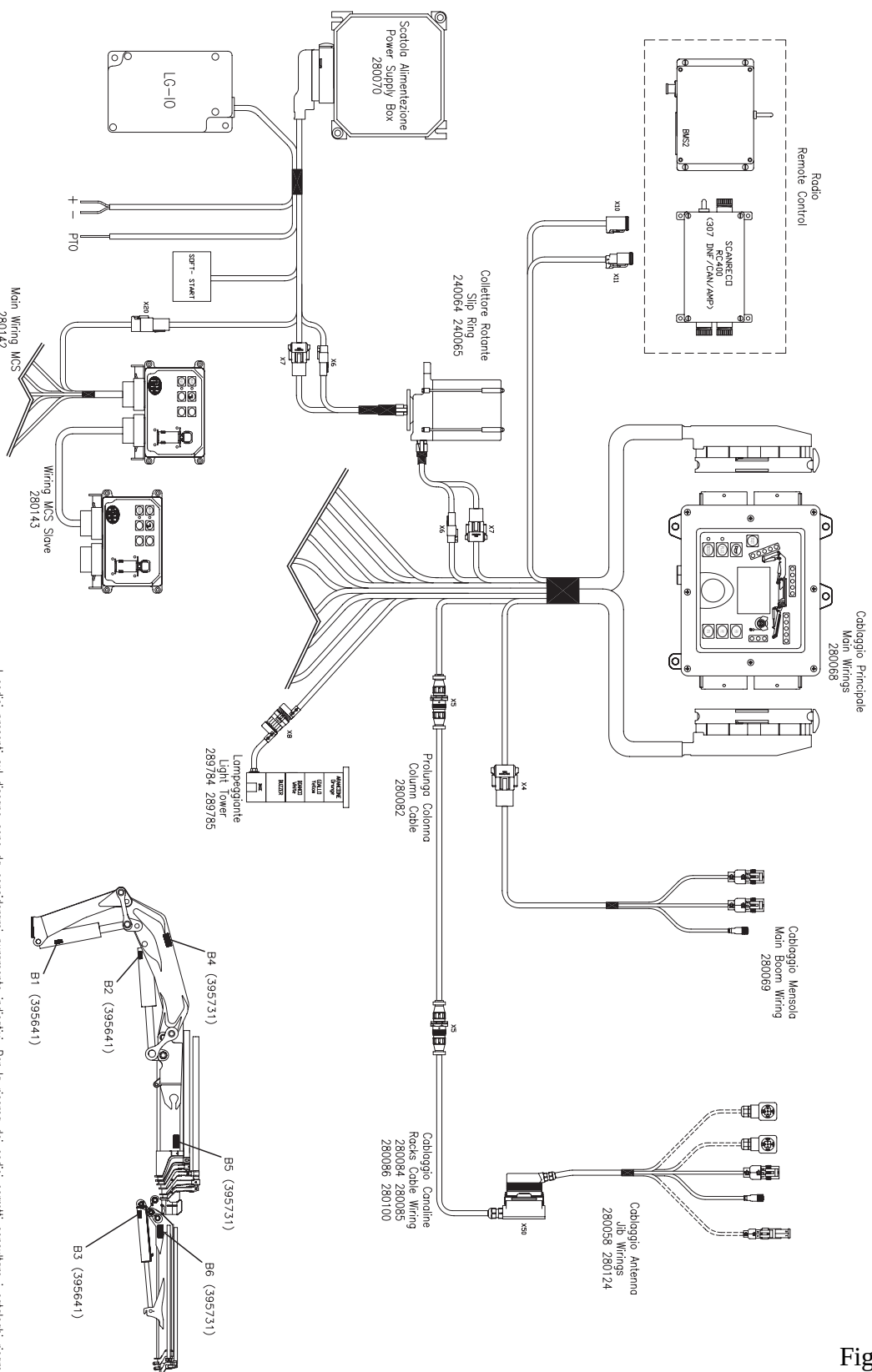


Fig.3-39

| LEGENDA/LEGEND |                                |                                       |           |                                   |                                |
|----------------|--------------------------------|---------------------------------------|-----------|-----------------------------------|--------------------------------|
| NOME/NAME      | FUNZIONE                       | FUNCTION                              | NOME/NAME | FUNZIONE                          | FUNCTION                       |
| CN1            | CONNETTORE SINISTRO CENTRALINA | RIGHT CONNECTOR CENTRAL UNIT          | D1        | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |
| CN2            | CONNETTORE DESTRO CENTRALINA   | LEFT CONNECTOR CENTRAL UNIT           | D2        | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |
| LG-I           | CENTRALINA POWER TRONIC        | POWER TRONIC MAIN UNIT                | D3        | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |
| LG-ID          | CENTRALINA INPUT OUTPUT        | INPUT OUTPUT UNIT                     | D4        | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |
| LG-MCS_MA      | MCS MASTER                     | MCS MASTER                            | D5        | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |
| LG-MCS_SL      | MCS SLAVE                      | MCS SLAVE                             | D6        | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |
| LG-SAT         | SATELLITE DOPPIO COMANDO       | SATELLITE OPPOSITE SIDE COMMAND       | D7        | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |
| LMU            | LMU                            | LMU                                   | Y0        | ELETTROVALVOLA DI EMERGENZA (EV9) | EMERGENCY VALVE (EV9)          |
| B1             | SENSORE PRESSIONE COLONNA (P1) | COLUMN CYLINDER PRESSURE TRANSD. (P1) | Y10       | ELETTROVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |
| B2             | SENSORE PRESSIONE MENSOLA (P2) | MAIN BDM PRESSURE TRANSDUCER (P2)     | Y60       | MA1                               | MA1                            |
| B3             | SENSORE PRESSIONE ANTENNA (P3) | JIB PRESSURE TRANSDUCER (P3)          | Y61       | MA2                               | MA2                            |
| B4             | SENSORE ANGOLO MENSOLA (A1)    | MAIN ANGLE SENSOR (A1)                | YR        | ELETTROVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |
| B5             | SENSORE ANGOLO BRACCI (A2)     | BDM PACK ANGLE SENSOR (A2)            | YA        | ELETTROVALVOLA DIR. A             | OUT SOLENOID VALVE             |
| B6             | SENSORE ANGOLO ANTENNA (A3)    | JIB ANGLE SENSOR (A3)                 | YB        | ELETTROVALVOLA DIR. B             | IN SOLENOID VALVE              |
| B7             | SENSORE TEMPERATURA OLIO       | OIL TEMPERATURE SENSOR                | Y1        | ELETTROVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |
| S0             | FILTRO                         | FILTER                                | Y2        | ELETTROVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |
| S1             | MICRO ROTAZIONE DX             | SLEEWING RIGHT MICROSWITCH            | Y3        | ELETTROVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |
| S2             | MICRO ROTAZIONE SX             | SLEEWING LEFT MICROSWITCH             | Y4        | ELETTROVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |
| S3             | MICRO FINECORSA SALTIA ARGANO  | WINCH END STROKE-UP MICROSWITCH       | Y5        | ELETTROVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |
| S4             | MICRO FINECORSA DISCESA ARGANO | WINCH END STROKE-DOWN MICROSWITCH     | Y6        | ELETTROVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |
| S5             | MICRO PACCO BRACCI RIENTRATO   | BDM PACK FOLDED MICROSWITCH           | Y7        | ELETTROVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |
| M              | VENTOLA SCAMBIATORE            | OIL COOLER FAN                        | Y8        | ELETTROVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |
| H1             | CICALINO                       | BUZZER                                |           |                                   |                                |
| H2             | LUCE BIANCA                    | WHITE LIGHT                           |           |                                   |                                |
| H3             | LUCE GIALLA                    | YELLOW LIGHT                          |           |                                   |                                |
| H4             | LUCE ARANCIO                   | ORANGE LIGHT                          |           |                                   |                                |

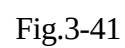
Fig.3-40

**GRU PM 65 SP PT**  
**CRANE PM 65 SP PT**  
**POWER TRONIC**

**GRU STD - ARGANO TC2 - RADIO SCANRECO**  
**CRANE STD - WINCH TC2 - REMOTE CONTROL SCANRECO**

**COD.**

**282524**  
**282527**  
**282529**  
**282525**  
**282526**  
**282534**  
**282535**  
**282536**  
**282567**  
**282544**



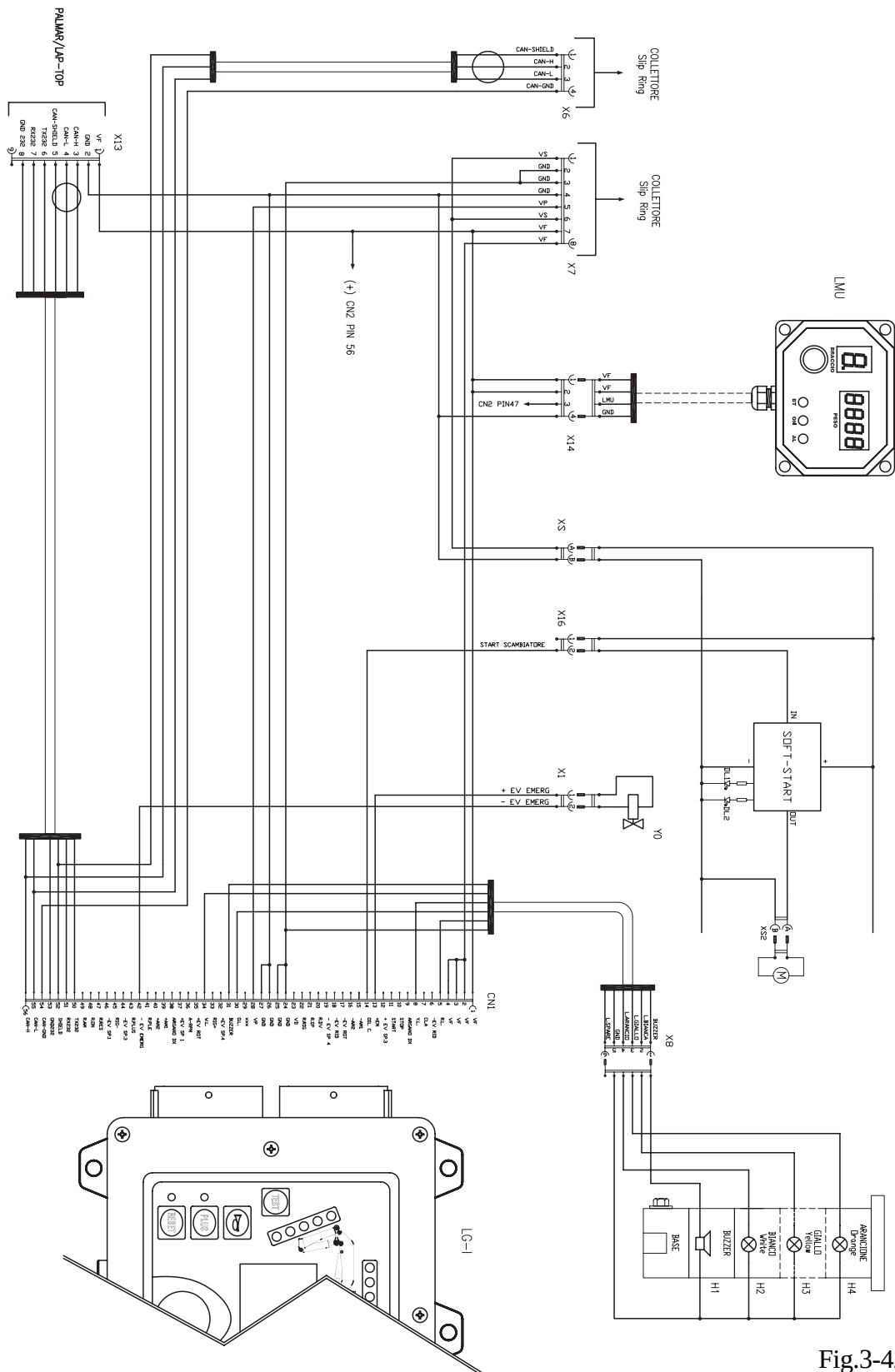


Fig.3-42

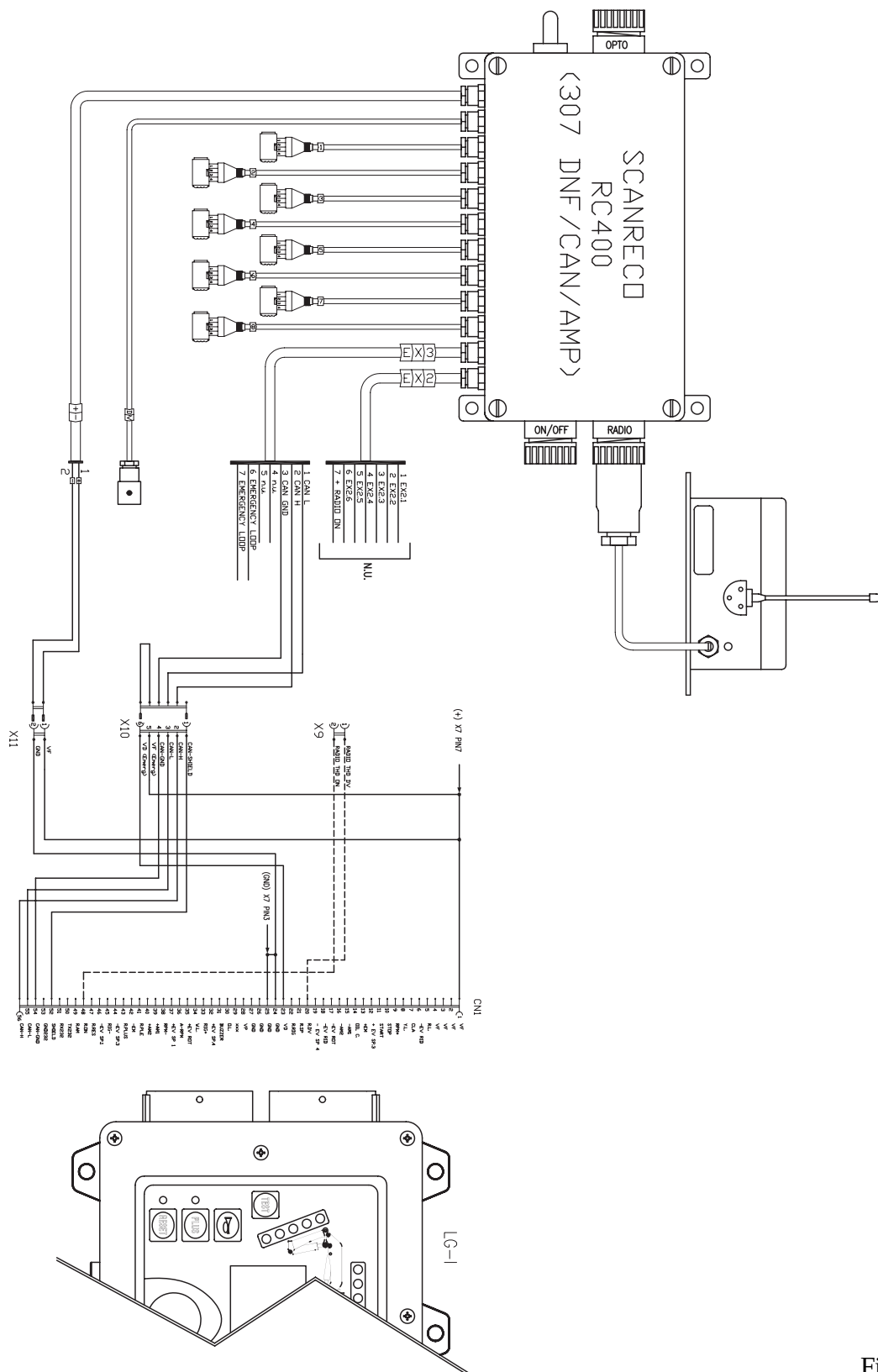
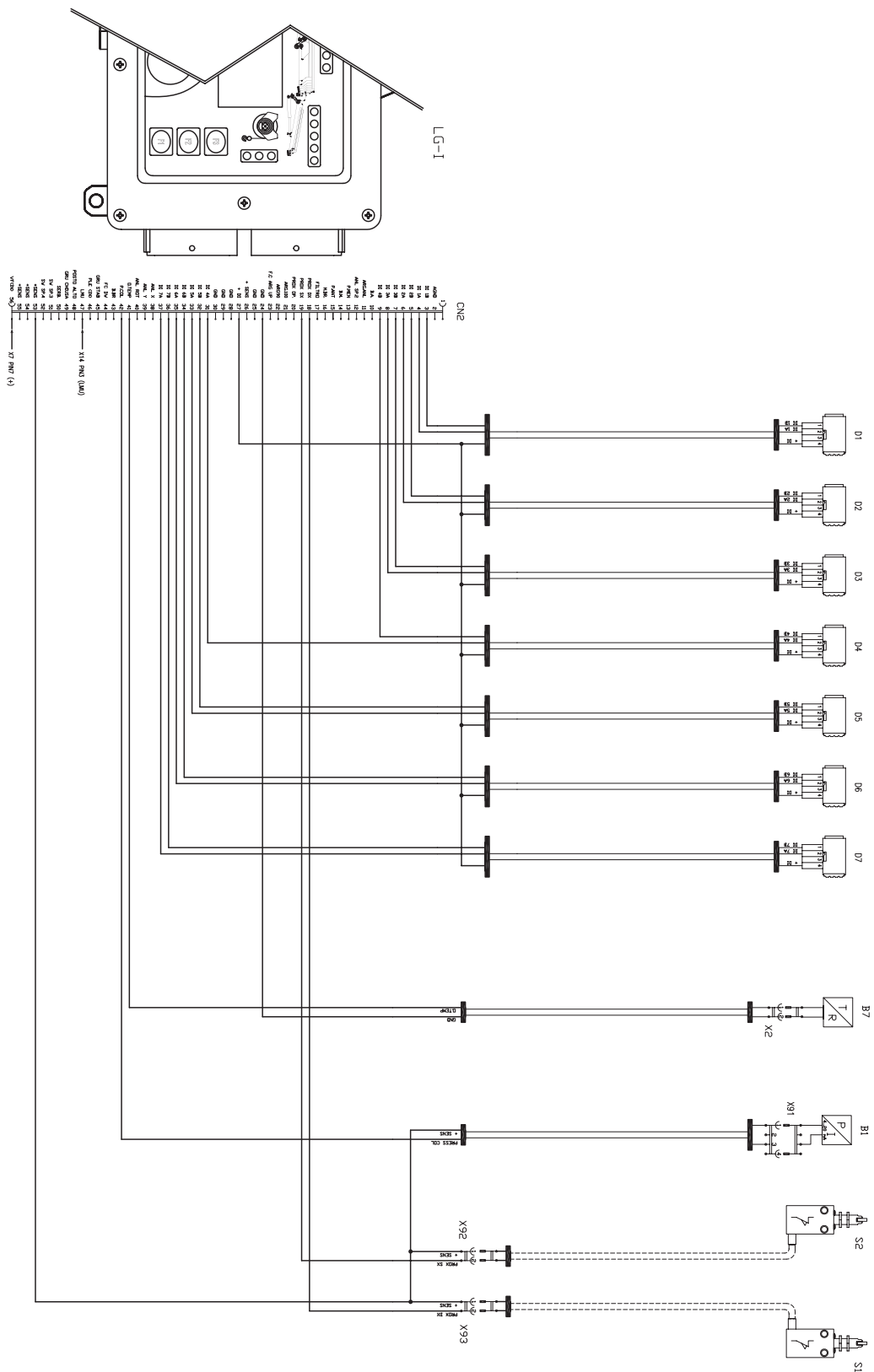


Fig.3-43



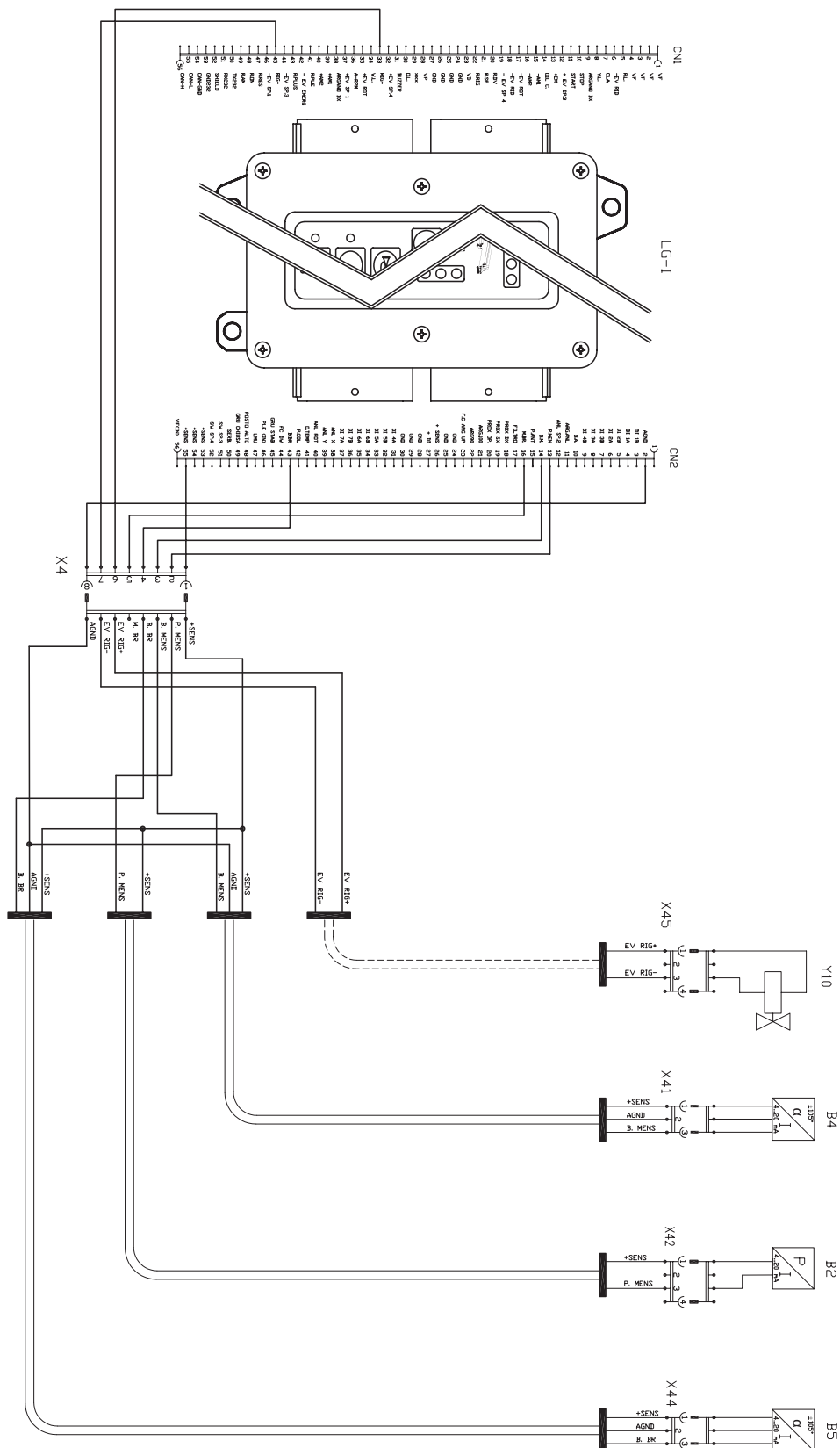
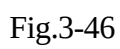


Fig.3-45



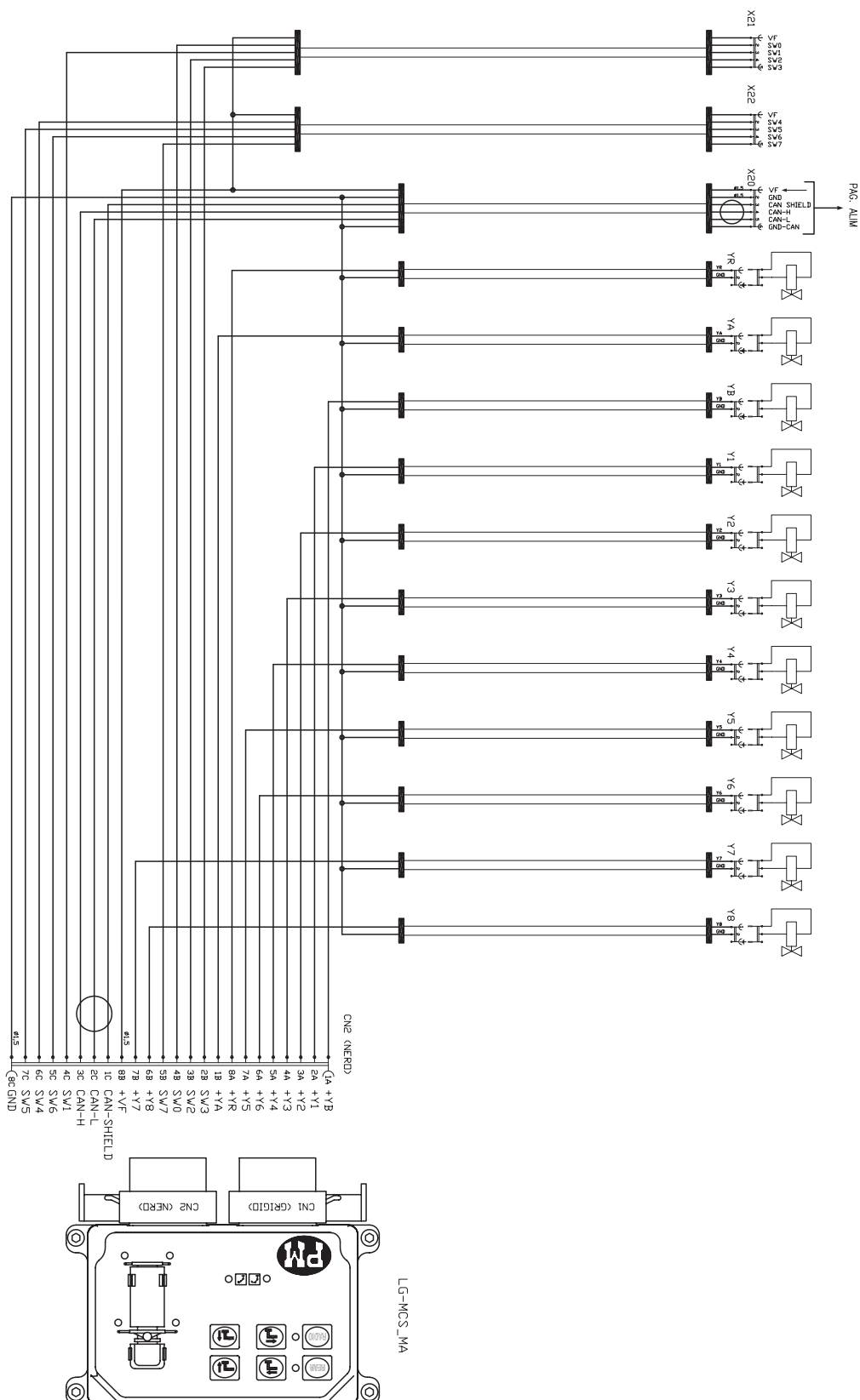


Fig.3-47

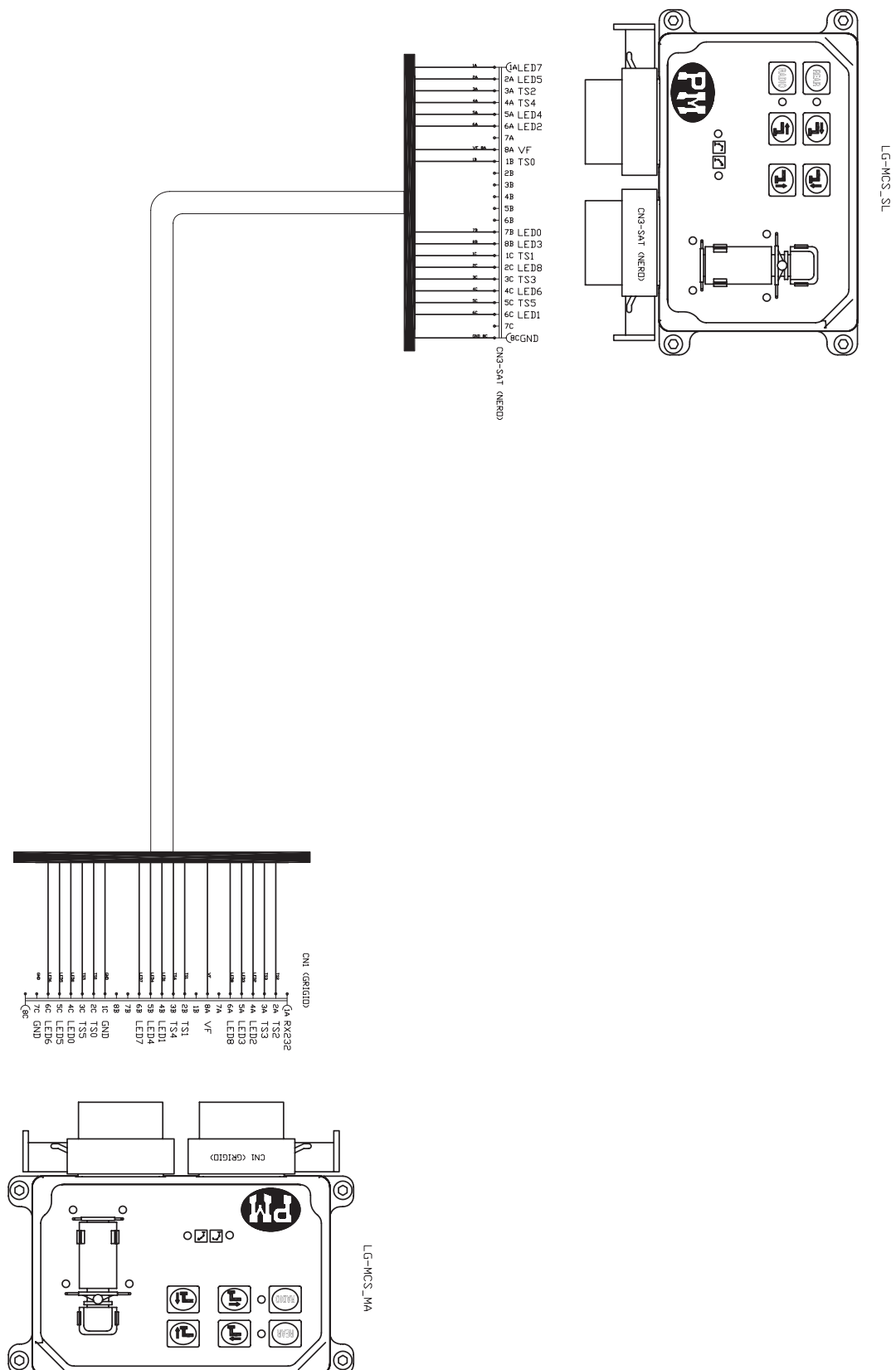
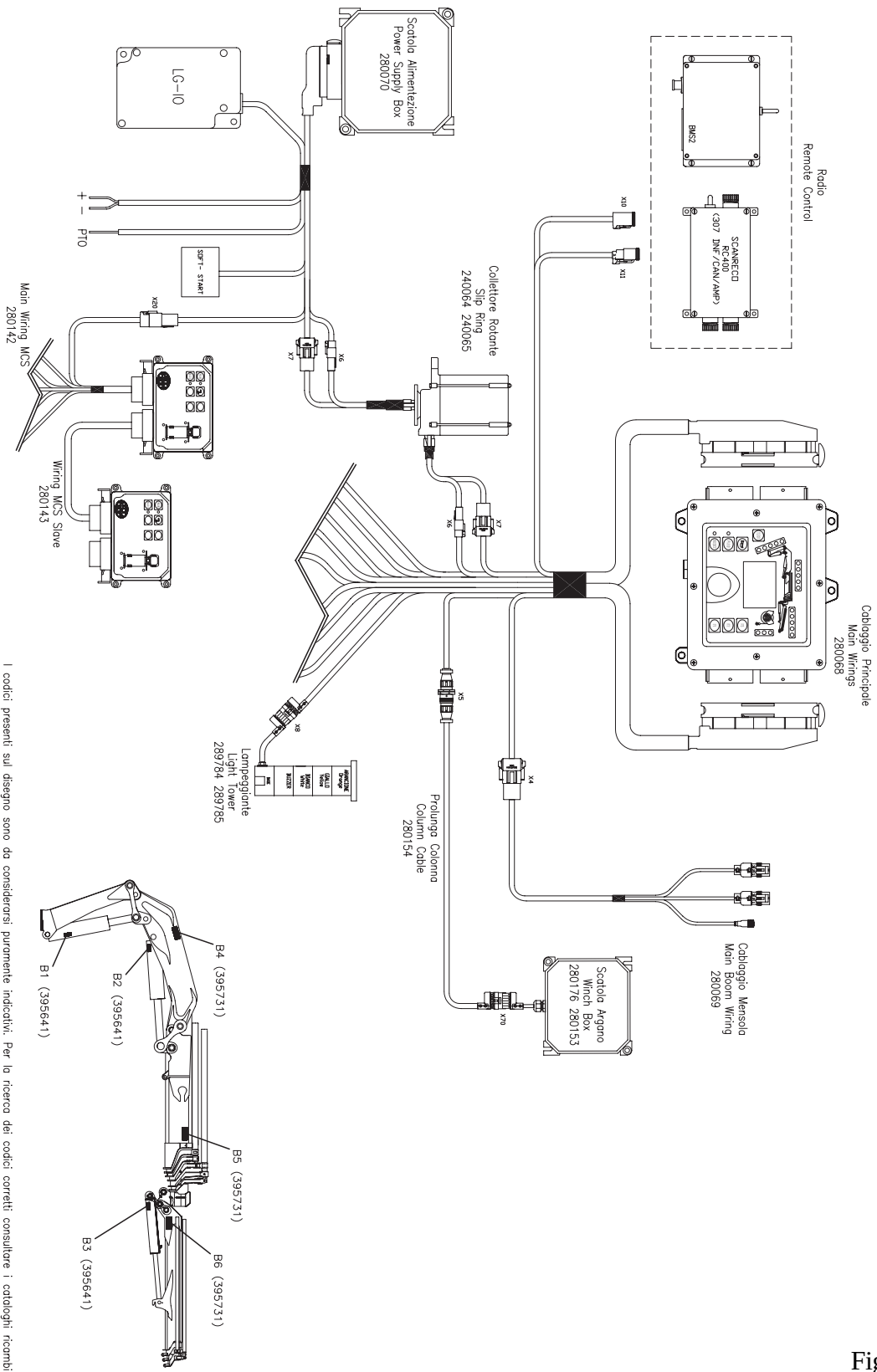


Fig.3-48



I codici presenti sul disegno sono da considerarsi puramente indicativi. Per la ricerca dei codici corretti consultare i cataloghi ricambi. The codes on this diagram are only an indication. To get the exactly codes please check on the spare parts catalogs of your crane.

Fig.3-49

Fig.3-50

| LEGENDA/LEGEND |                                 |                                       |           |                                   |                                |
|----------------|---------------------------------|---------------------------------------|-----------|-----------------------------------|--------------------------------|
| NOME/NAME      | FUNZIONE                        | FUNCTION                              | NOME/NAME | FUNZIONE                          | FUNCTION                       |
| CN1            | CONNETTORE SINISTRO CENTRALINA  | RIGHT CONNECTOR CENTRAL UNIT          | D1        | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |
| CN2            | CONNETTORE DESTRO CENTRALINA    | LEFT CONNECTOR CENTRAL UNIT           | D2        | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |
| LG-I           | CENTRALINA POWER TRONIC         | POWER TRONIC MAIN UNIT                | D3        | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |
| LG-ID          | CENTRALINA INPUT OUTPUT         | INPUT OUTPUT UNIT                     | D4        | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |
| LG-MCS_MA      | MCS MASTER                      | MCS MASTER                            | D5        | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |
| LG-MCS_SL      | MCS SLAVE                       | MCS SLAVE                             | D6        | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |
| LG-SAT         | SATELLITE DOPPIO COMANDO        | SATELLITE OPPOSITE SIDE COMMAND       | D7        | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |
| LMU            | LMU                             | LMU                                   |           |                                   |                                |
|                |                                 |                                       | Y0        | ELETTROVALVOLA DI EMERGENZA (EV9) | EMERGENCY VALVE (EV9)          |
| B1             | SENSORE PRESSIONE CILINDRO (P1) | COLUMN CYLINDER PRESSURE TRANSD. (P1) | Y10       | ELETTROVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |
| B2             | SENSORE PRESSIONE MENSOLA (P2)  | MAIN BDOM PRESSURE TRANSDUCER (P2)    | Y60       | AM1                               | MA1                            |
| B3             | SENSORE PRESSIONE ANTENNA (P3)  | JIB PRESSURE TRANSDUCER (P3)          | Y61       | AM2                               | MA2                            |
| B4             | SENSORE ANGOLO MENSOLA (A1)     | MAIN ANGLE SENSOR (A1)                |           |                                   |                                |
| B5             | SENSORE ANGOLO BRACCI (A2)      | BDOM PACK ANGLE SENSOR (A2)           | YR        | ELETTROVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |
| B6             | SENSORE ANGOLO ANTENNA (A3)     | JIB ANGLE SENSOR (A3)                 | YA        | ELETTROVALVOLA DIR. A             | OUT SOLENOID VALVE             |
| B7             | SENSORE TEMPERATURA OLIO        | OIL TEMPERATURE SENSOR                | YB        | ELETTROVALVOLA DIR. B             | IN SOLENOID VALVE              |
|                |                                 |                                       | Y1        | ELETTROVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |
| S0             | FILTRO                          | FILTER                                | Y2        | ELETTROVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |
| S1             | MICRO ROTAZIONE DX              | SLEEWING RIGHT MICROSWITCH            | Y3        | ELETTROVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |
| S2             | MICRO ROTAZIONE SX              | SLEEWING LEFT MICROSWITCH             | Y4        | ELETTROVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |
| S3             | MICRO FINECORSA SALITA ARGANO   | WINCH END STROKE-UP MICROSWITCH       | Y5        | ELETTROVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |
| S4             | MICRO FINECORSA DISCESA ARGANO  | WINCH END STROKE-DOWN MICROSWITCH     | Y6        | ELETTROVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |
| S5             | MICRO PACCO BRACCI RIENTRATO    | BDOM PACK FOLDED MICROSWITCH          | Y7        | ELETTROVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |
|                |                                 |                                       | Y8        | ELETTROVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |
| M              | VENTOLA SCAMBIATORE             | OIL COOLER FAN                        |           |                                   |                                |
|                |                                 |                                       |           |                                   |                                |
| H1             | CICALINO                        | BUZZER                                |           |                                   |                                |
| H2             | LUCE BIANCA                     | WHITE LIGHT                           |           |                                   |                                |
| H3             | LUCE GIALLA                     | YELLOW LIGHT                          |           |                                   |                                |
| H4             | LUCE ARANCIO                    | ORANGE LIGHT                          |           |                                   |                                |

**GRU PM 65 SP PT**  
**CRANE PM 65 SP PT**  
**POWER TRONIC**

**GRU STD - ARGANO TC2 - (ANTENNA) - RADIO HETRONIC**  
**CRANE STD - WINCH TC2 - (JIB) - REMOTE CONTROL HETRONIC**

**COD.**

**282524**  
**282527**  
**282530**  
**282525**  
**282526**  
**282534**  
**282535**  
**282536**  
**282567**  
**282544**

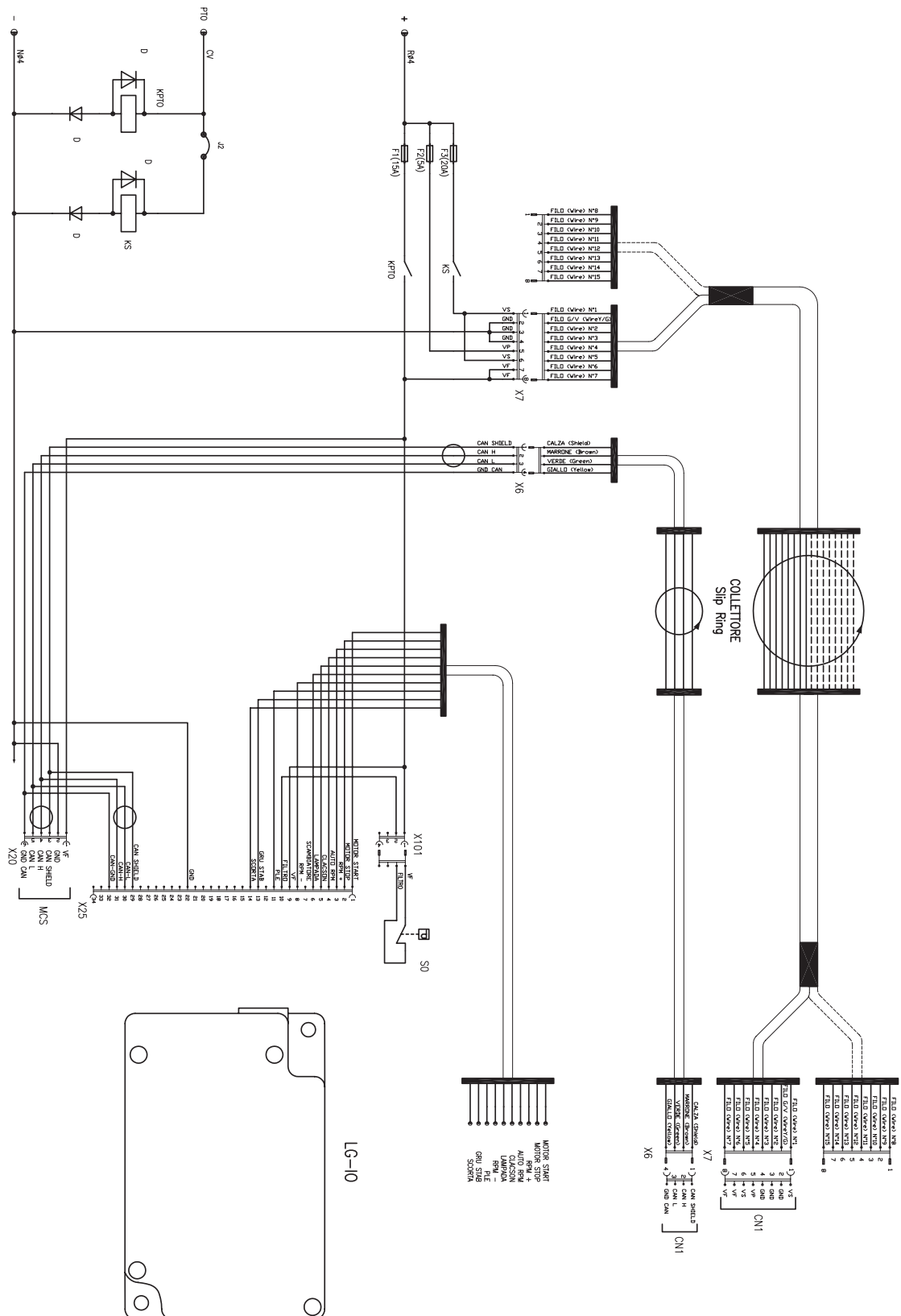


Fig.3-51

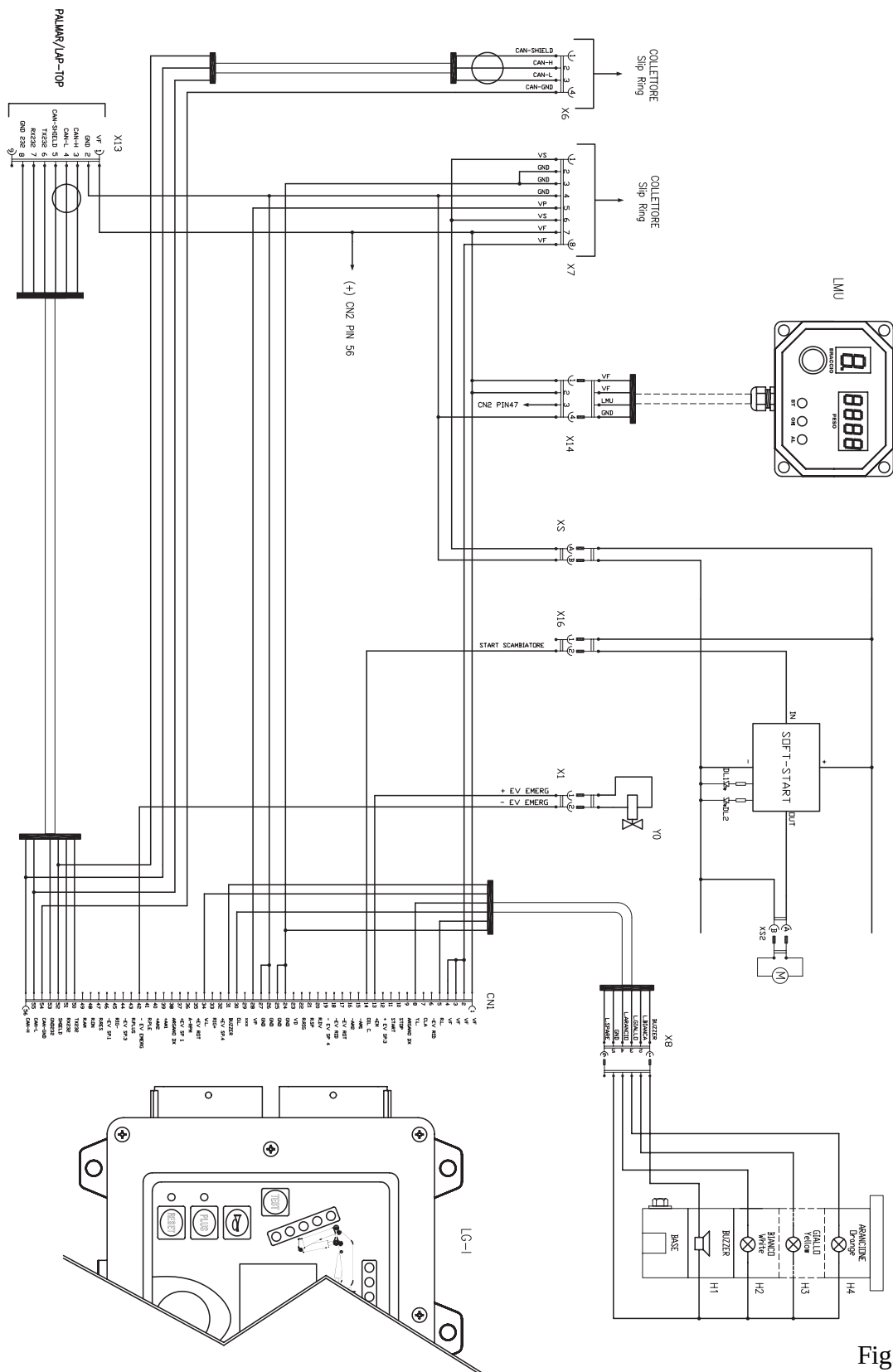


Fig.3-52

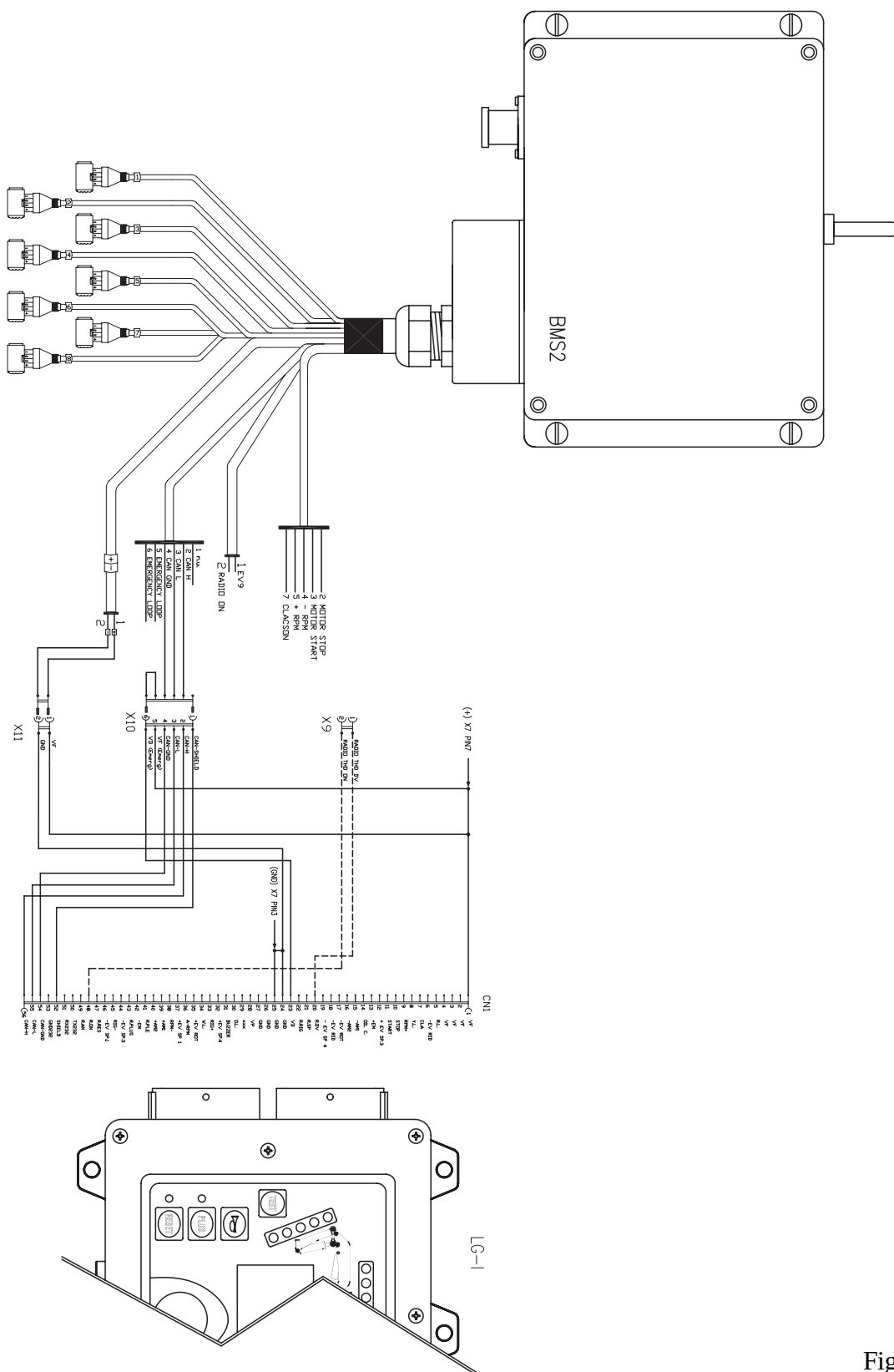


Fig.3-53

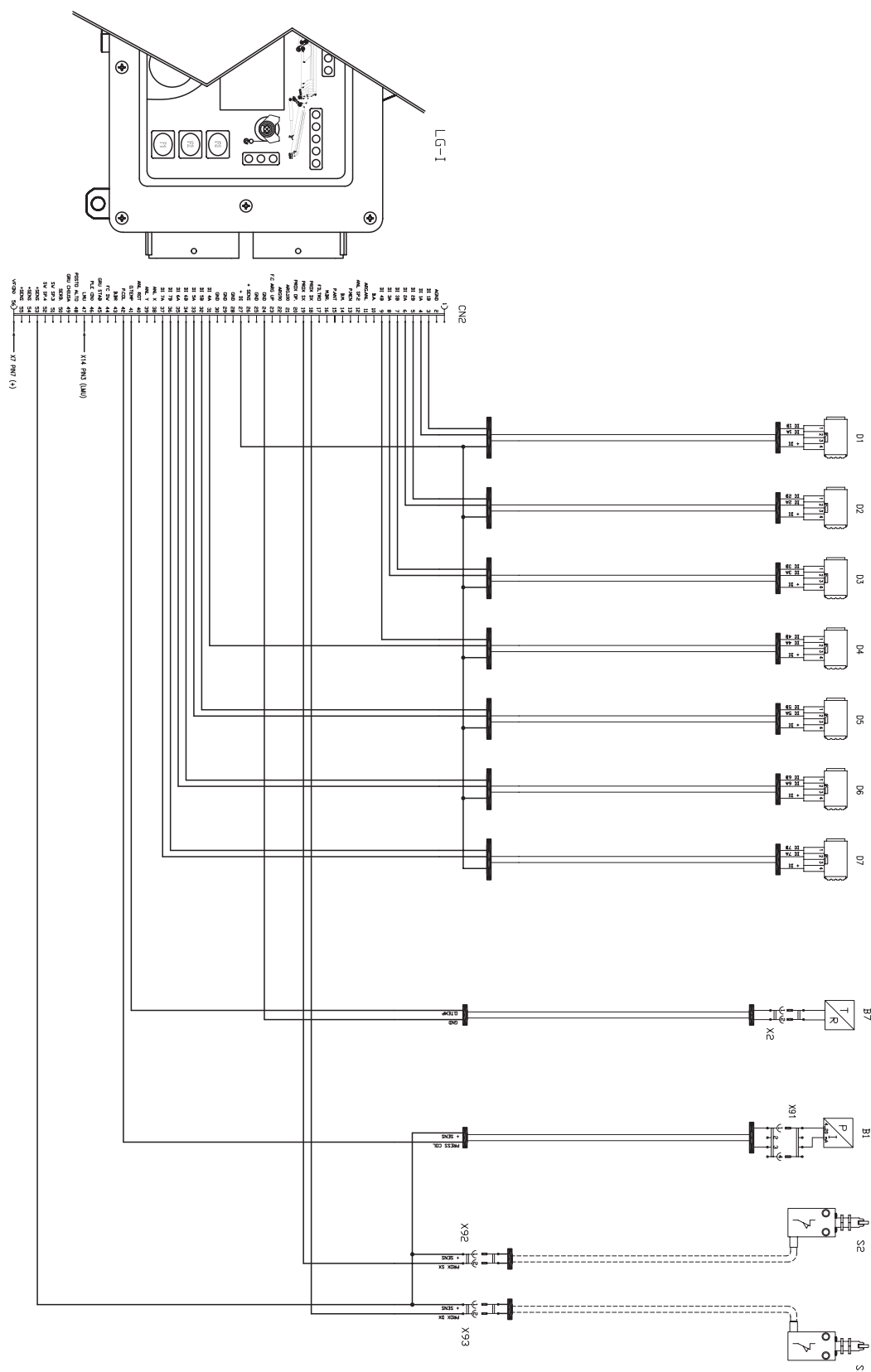


Fig.3-54

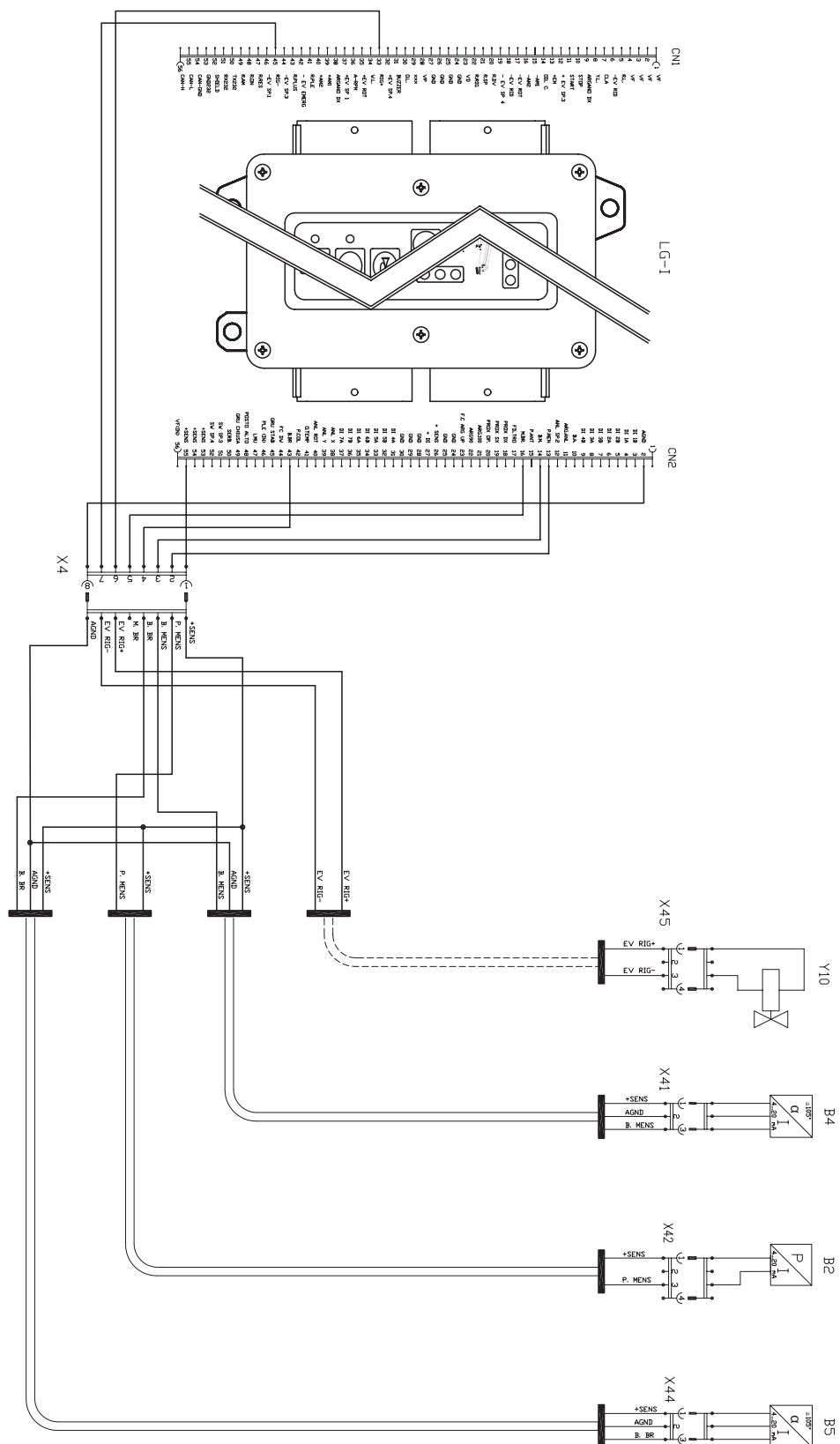


Fig.3-55

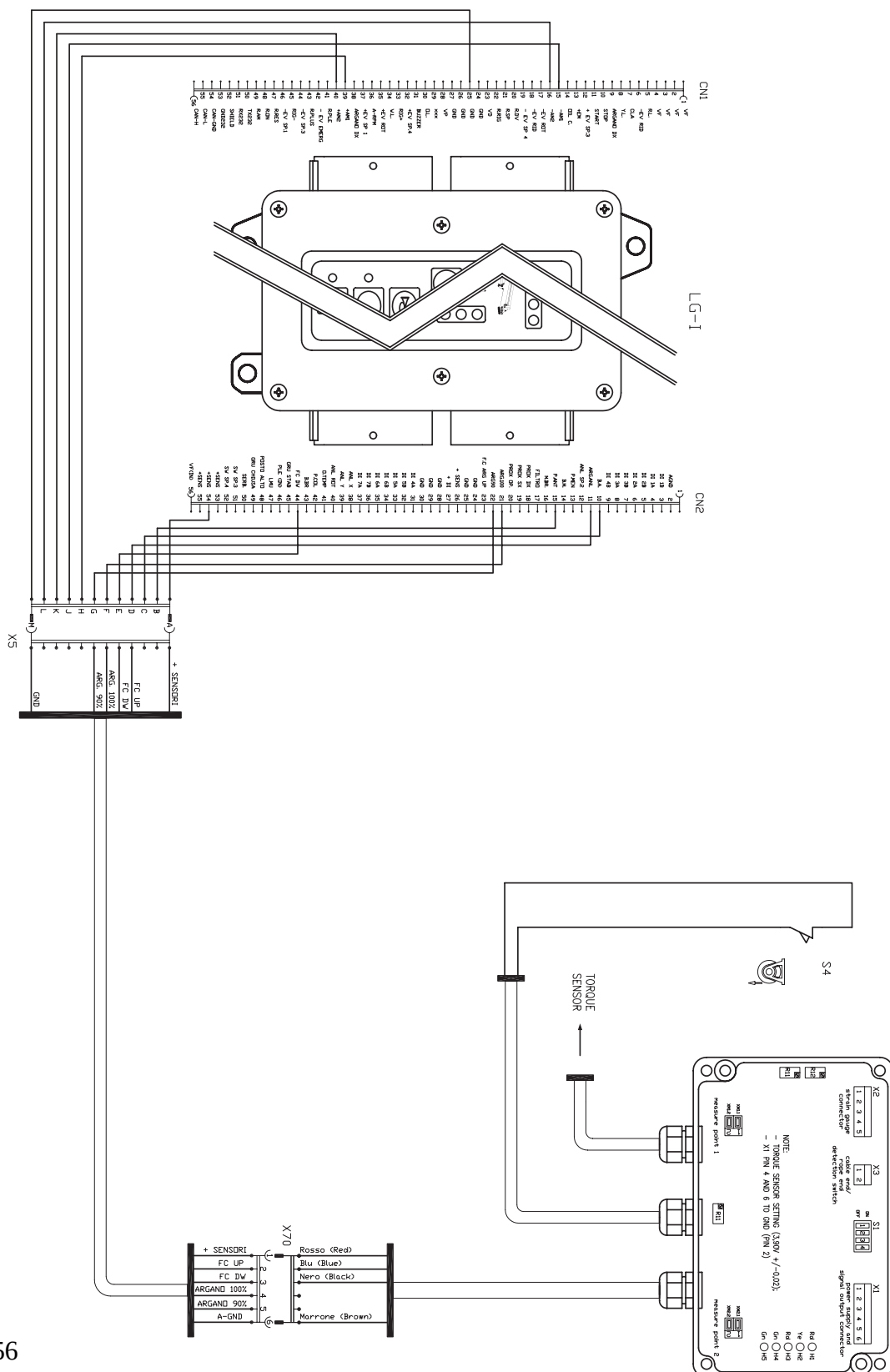
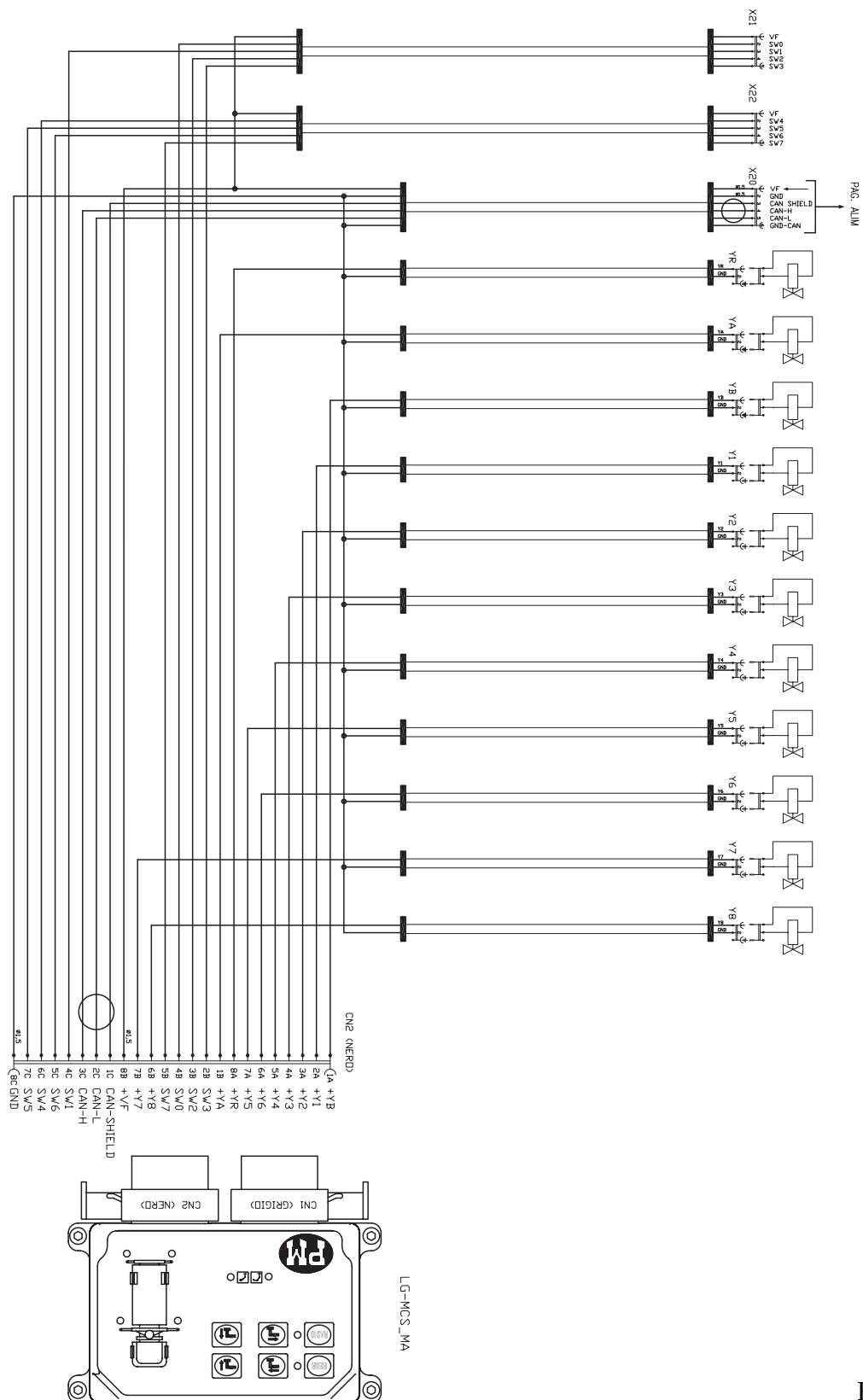


Fig.3-56



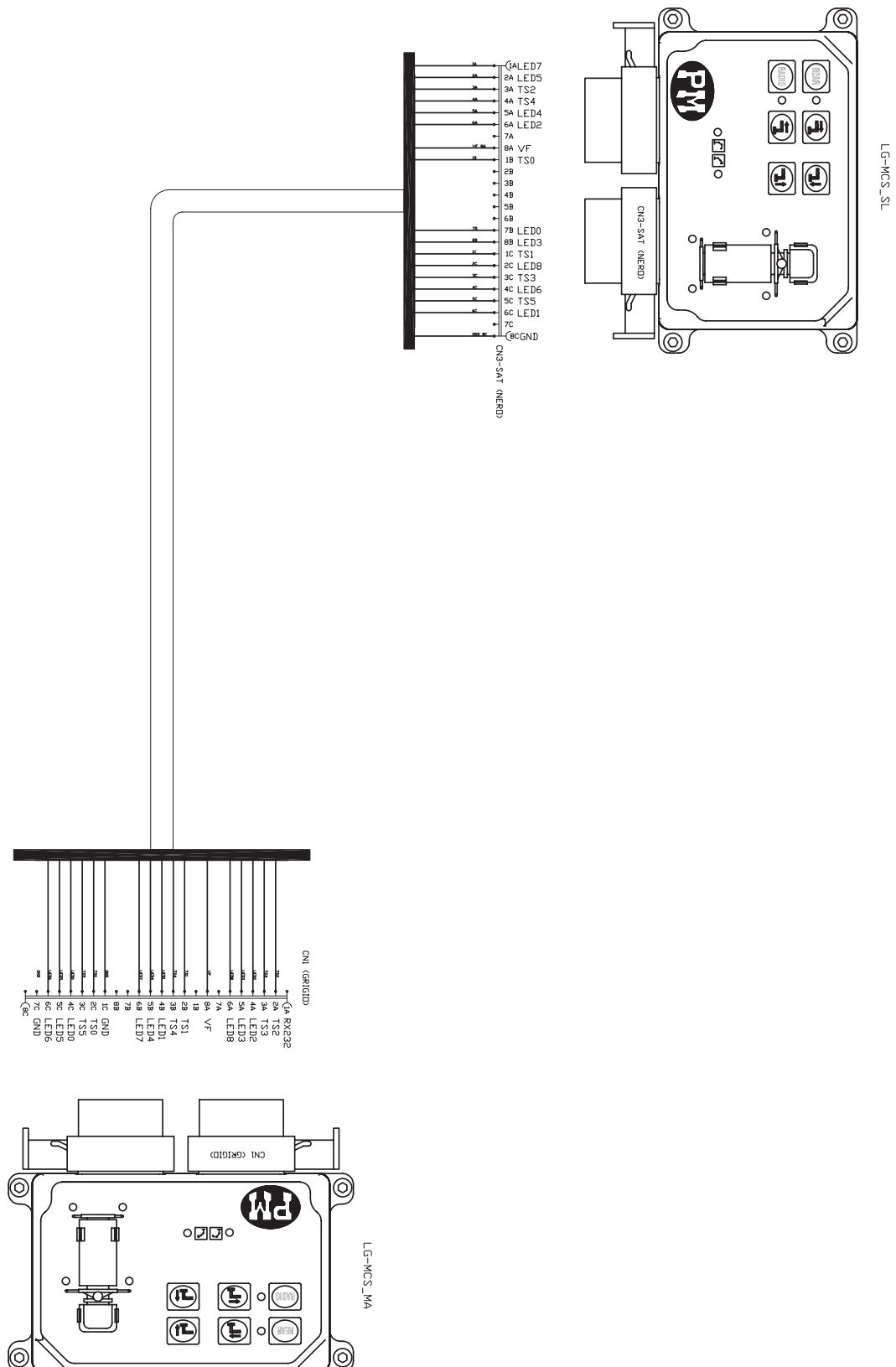


Fig.3-58

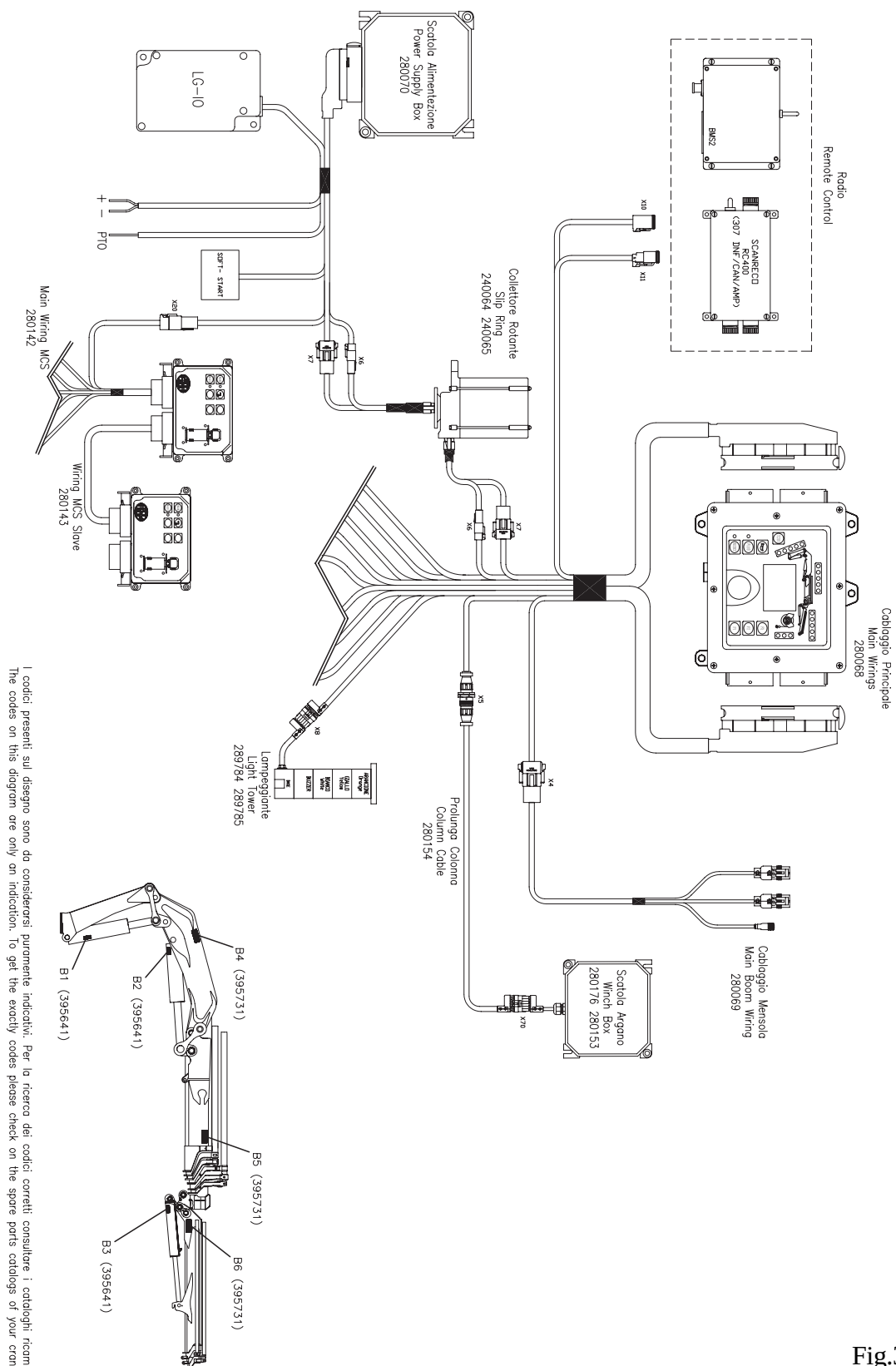


Fig.3-59

Fig.3-60

| LEGENDA/LEGEND |                                 |                                         |           |                                   |                                |
|----------------|---------------------------------|-----------------------------------------|-----------|-----------------------------------|--------------------------------|
| NOME/NAME      | FUNZIONE                        | FUNCTION                                | NOME/NAME | FUNZIONE                          | FUNCTION                       |
| CN1            | CONNETTORE SINISTRO CENTRALINA  | RIGHT CONNECTOR CENTRAL UNIT            | D1        | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |
| CN2            | CONNETTORE DESTRO CENTRALINA    | LEFT CONNECTOR CENTRAL UNIT             | D2        | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |
| LG-I           | CENTRALINA POWER TRONIC         | POWER TRONIC MAIN UNIT                  | D3        | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |
| LG-ID          | CENTRALINA INPUT OUTPUT         | INPUT OUTPUT UNIT                       | D4        | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |
| LG-MCS_MA      | MCS MASTER                      | MCS MASTER                              | D5        | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |
| LG-MCS_SL      | MCS SLAVE                       | MCS SLAVE                               | D6        | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |
| LG-SAT         | SATELLITE DOPPIO COMANDO        | SATELLITE OPPOSITE SIDE COMMAND         | D7        | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |
| LMU            | LMU                             | LMU                                     |           |                                   |                                |
|                |                                 |                                         | Y0        | ELETTROVALVOLA DI EMERGENZA (EV9) | EMERGENCY VALVE (EV9)          |
| B1             | SENSORE PRESSIONE CILINDRO (P1) | CYLINDER CYLINDER PRESSURE TRANSD. (P1) | Y10       | ELETTROVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |
| B2             | SENSORE PRESSIONE MENSOLA (P2)  | MAIN BOOM PRESSURE TRANSDUCER (P2)      | Y60       | AM1                               | MA1                            |
| B3             | SENSORE PRESSIONE ANTENNA (P3)  | JIB PRESSURE TRANSDUCER (P3)            | Y61       | AM2                               | MA2                            |
| B4             | SENSORE ANGOLO MENSOLA (A1)     | MAIN ANGLE SENSOR (A1)                  |           |                                   |                                |
| B5             | SENSORE ANGOLO BRACCI (A2)      | BOOM PACK ANGLE SENSOR (A2)             | YR        | ELETTROVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |
| B6             | SENSORE ANGOLO ANTENNA (A3)     | JIB ANGLE SENSOR (A3)                   | YA        | ELETTROVALVOLA DIR A              | OUT SOLENOID VALVE             |
| B7             | SENSORE TEMPERATURA OLIO        | OIL TEMPERATURE SENSOR                  | YB        | ELETTROVALVOLA DIR B              | IN SOLENOID VALVE              |
|                |                                 |                                         | Y1        | ELETTROVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |
| S0             | FILTRO                          | FILTER                                  | Y2        | ELETTROVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |
| S1             | MICRO ROTAZIONE DX              | SLEEWING RIGHT MICROSWITCH              | Y3        | ELETTROVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |
| S2             | MICRO ROTAZIONE SX              | SLEEWING LEFT MICROSWITCH               | Y4        | ELETTROVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |
| S3             | MICRO FINECORSA SALTITA ARGAND  | WINCH END STROKE-UP MICROSWITCH         | Y5        | ELETTROVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |
| S4             | MICRO FINECORSA DISCESA ARGAND  | WINCH END STROKE DOWN MICROSWITCH       | Y6        | ELETTROVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |
| S5             | MICRO PACCO BRACCI RIENTRATO    | BOOM PACK FOLDED MICROSWITCH            | Y7        | ELETTROVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |
|                |                                 |                                         | Y8        | ELETTROVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |
| M              | VENTOLA SCAMBIATORE             | OIL COOLER FAN                          |           |                                   |                                |
|                |                                 |                                         |           |                                   |                                |
| H1             | CITCALINO                       | BUZZER                                  |           |                                   |                                |
| H2             | LUCE BIANCA                     | WHITE LIGHT                             |           |                                   |                                |
| H3             | LUCE GIALLA                     | YELLOW LIGHT                            |           |                                   |                                |
| H4             | LUCE ARANCIO                    | ORANGE LIGHT                            |           |                                   |                                |

**GRU PM 65 SP PT**  
**CRANE PM 65 SP PT**  
**POWER TRONIC**

**GRU STD - ARGANO TC2 - (ANTENNA) - RADIO SCANRECO**  
**CRANE STD - WINCH TC2 - (JIB) - REMOTE CONTROL SCANRECO**

**COD.**

**282524**  
**282527**  
**282529**  
**282525**  
**282526**  
**282532**  
**282535**  
**282536**  
**282568**  
**282544**

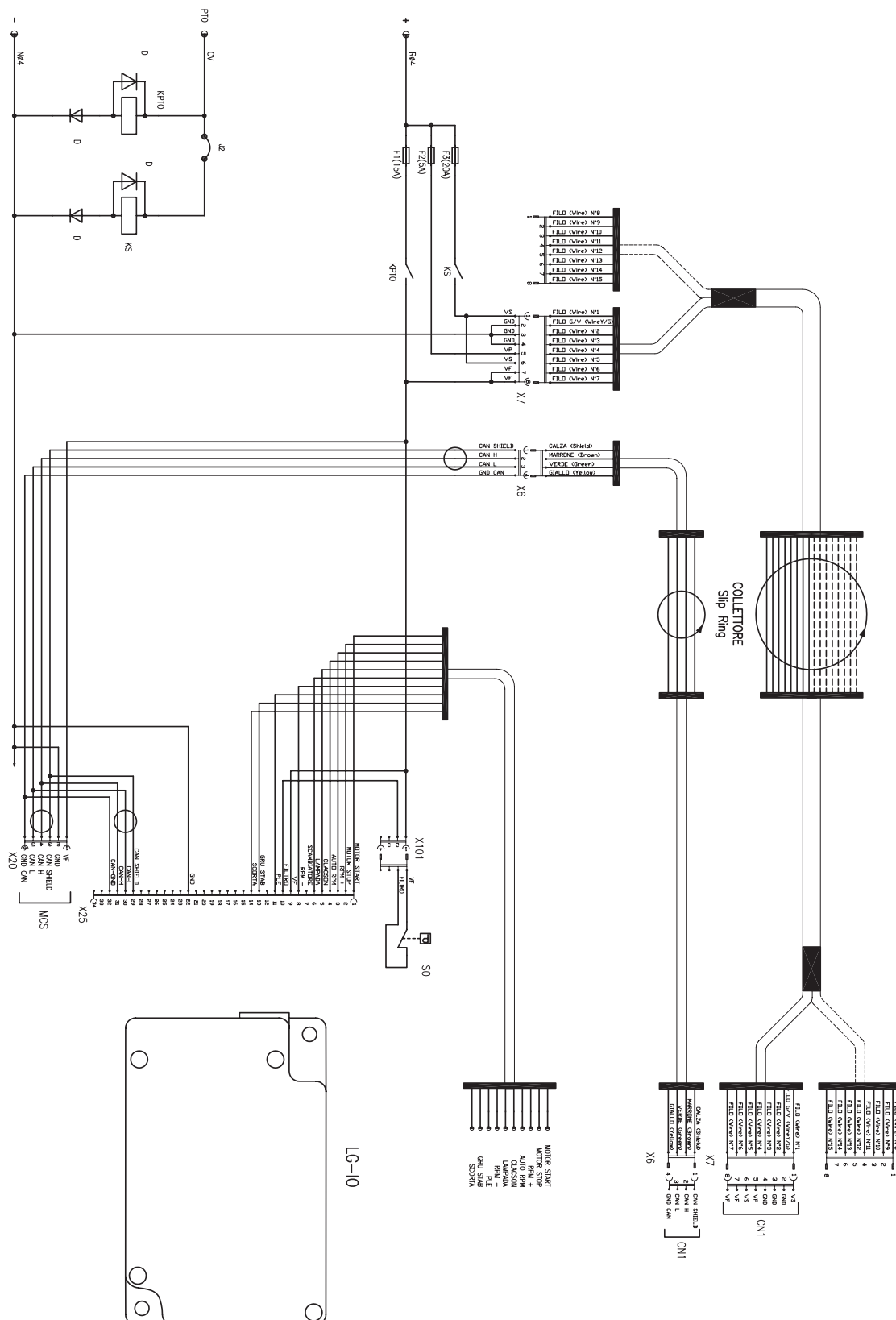


Fig.3-61

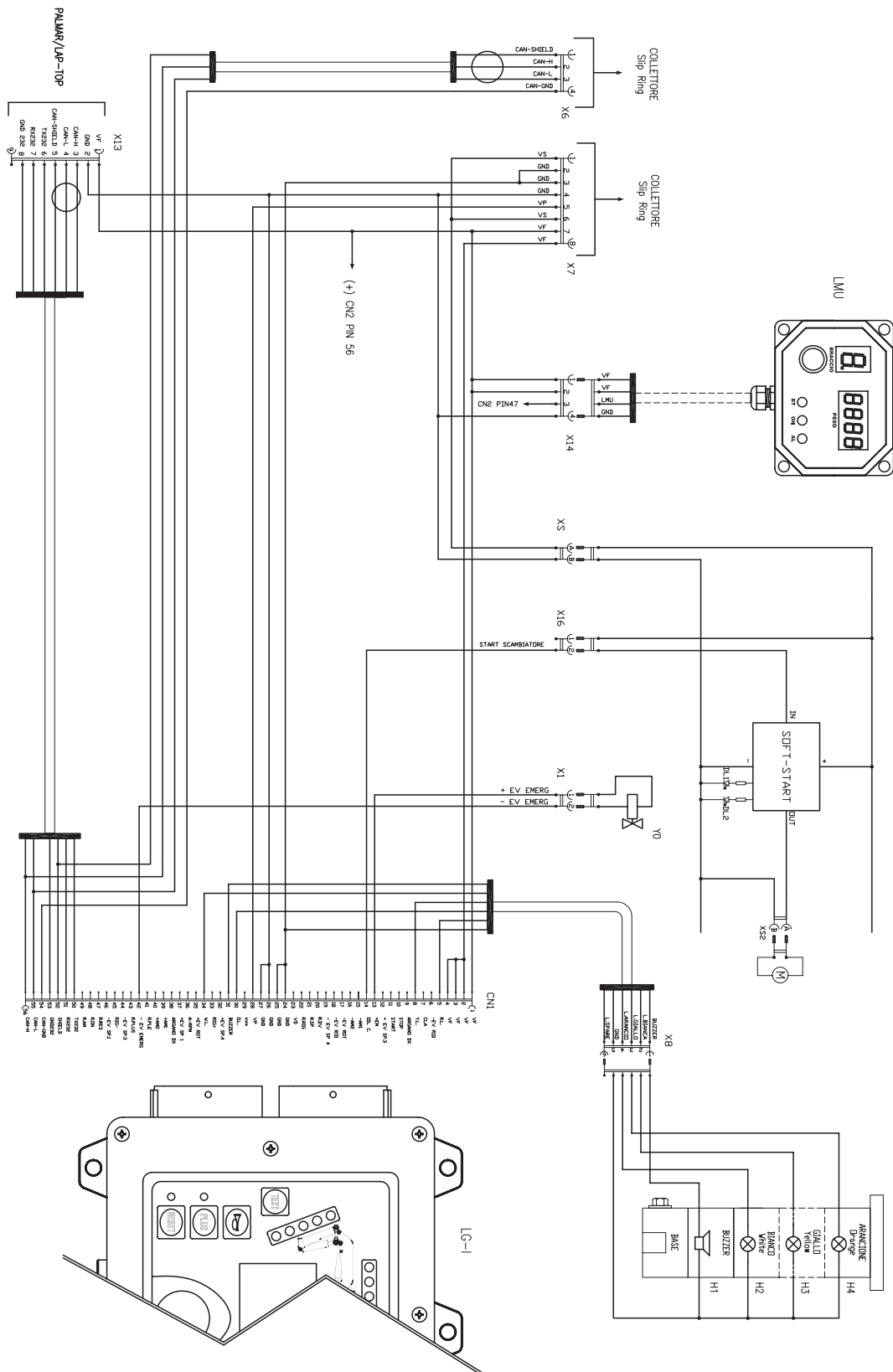
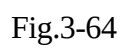


Fig.3-62

Fig.3-63



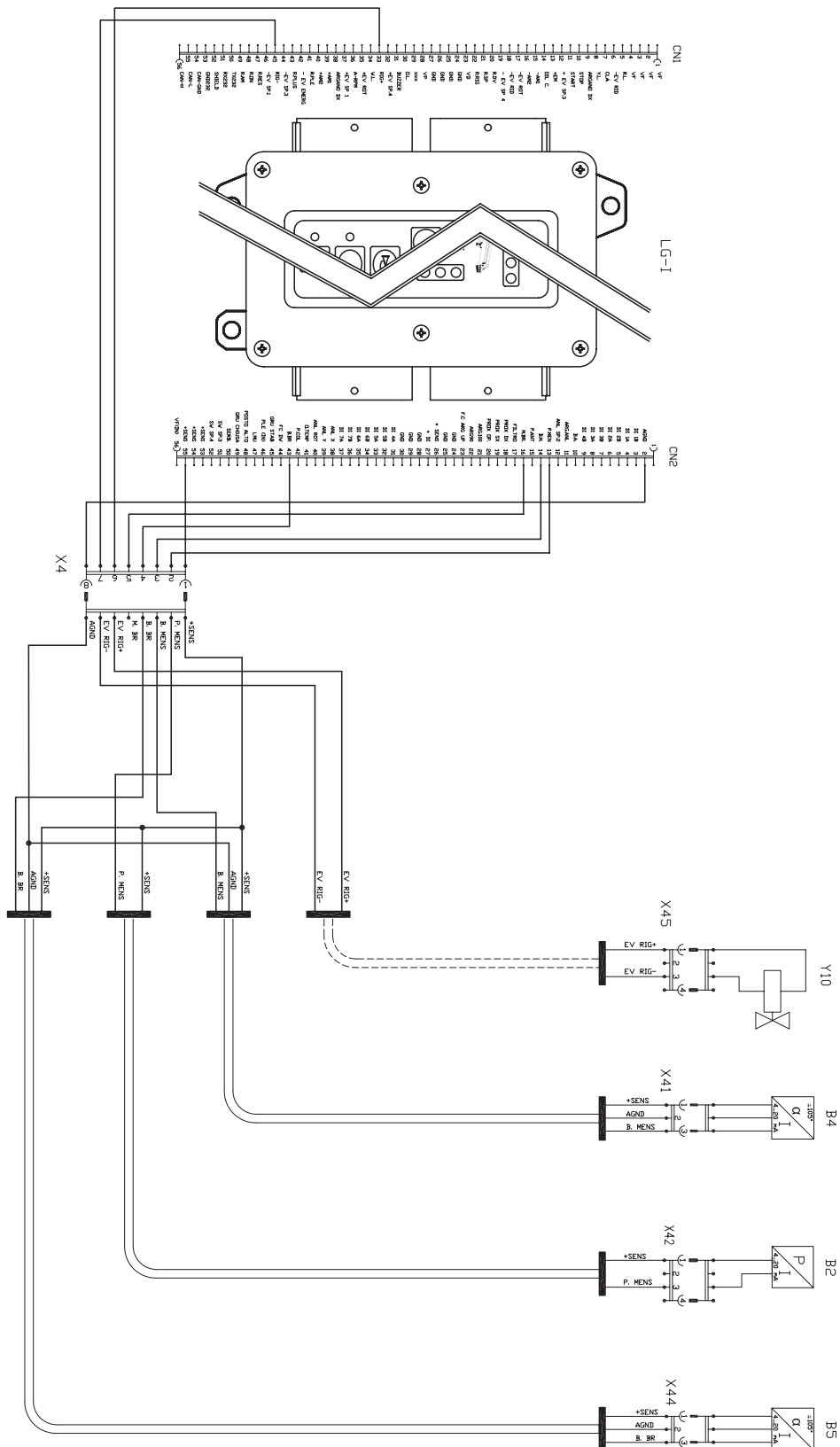
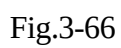


Fig.3-65



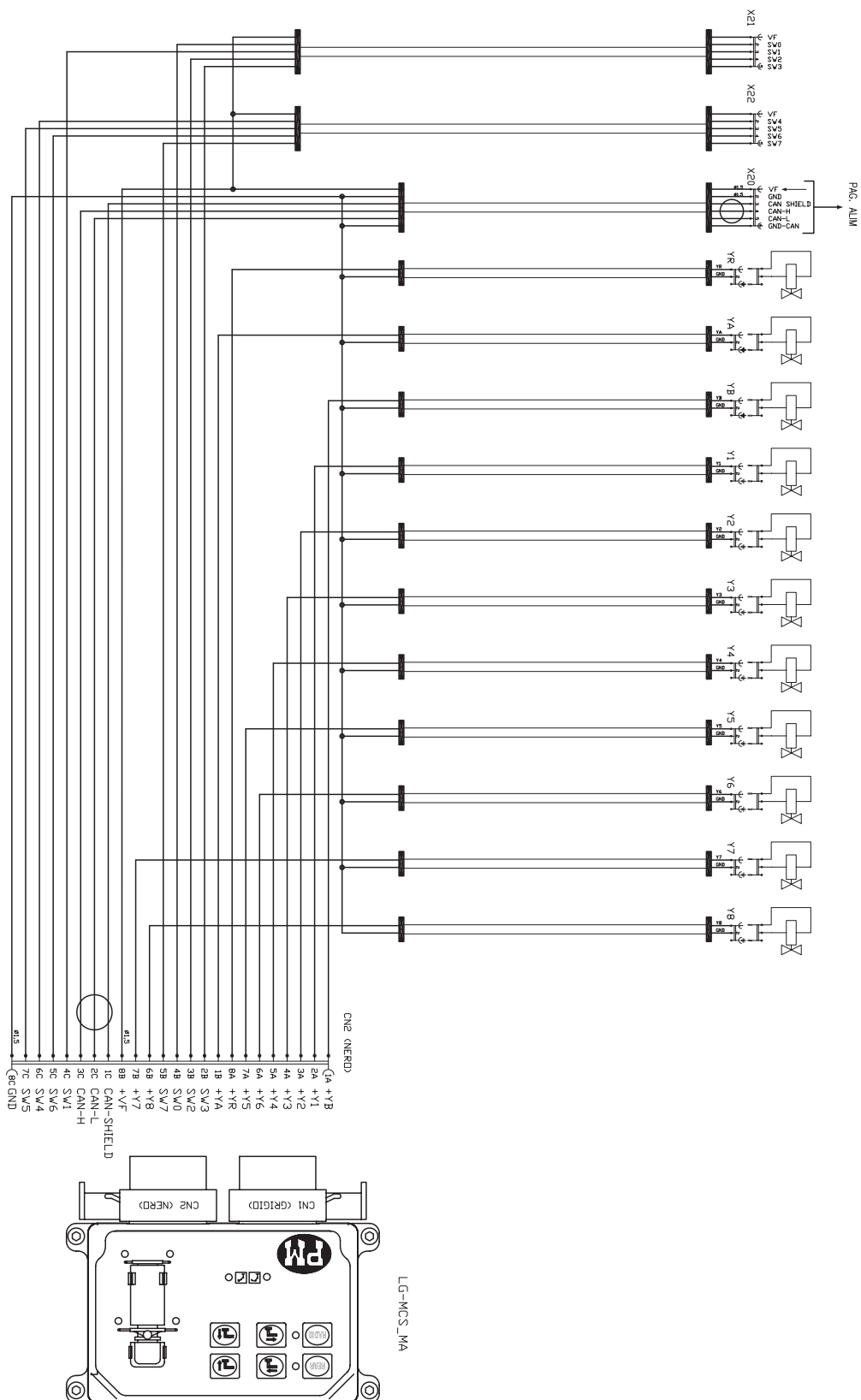


Fig.3-67

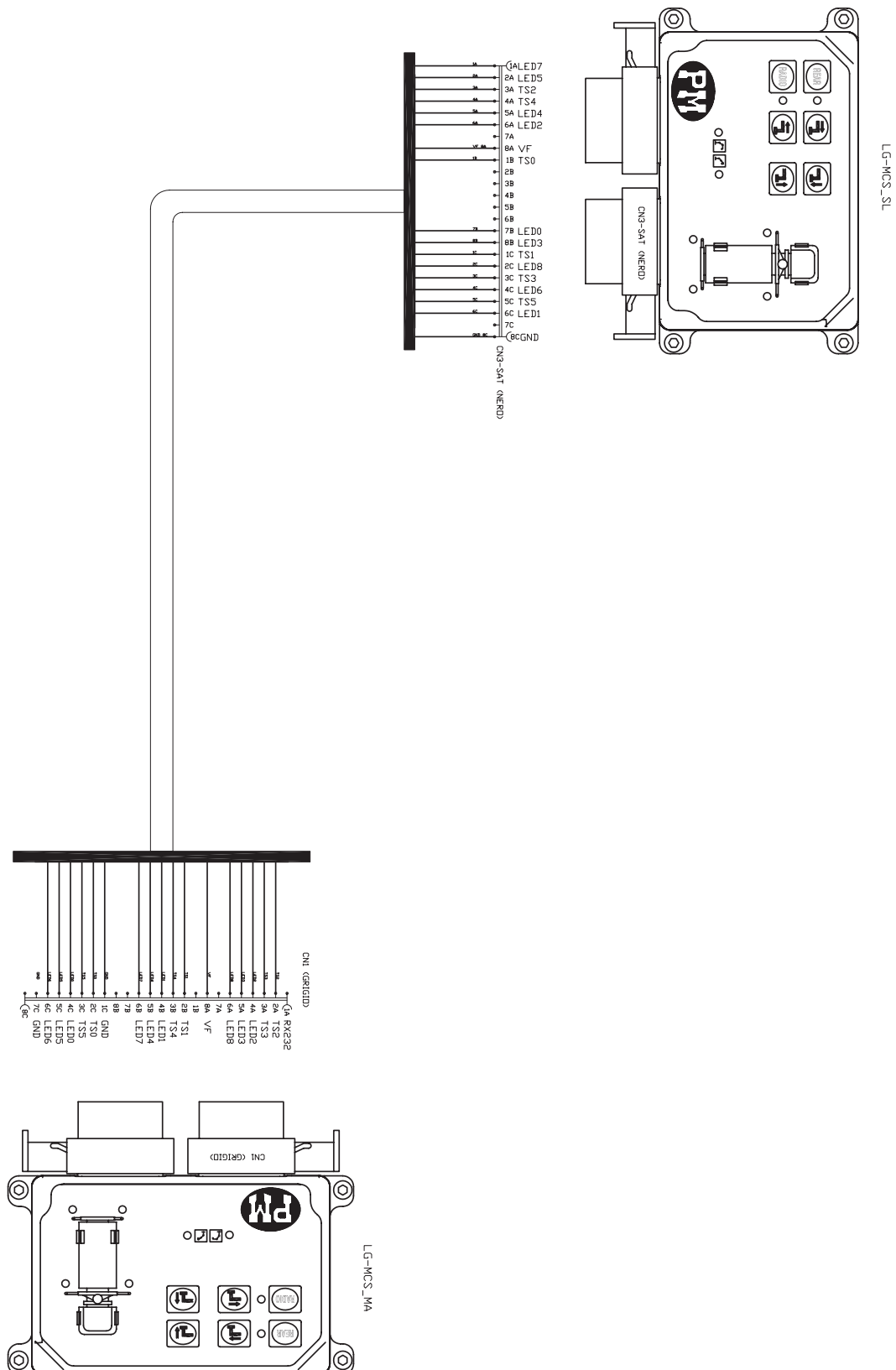


Fig.3-68

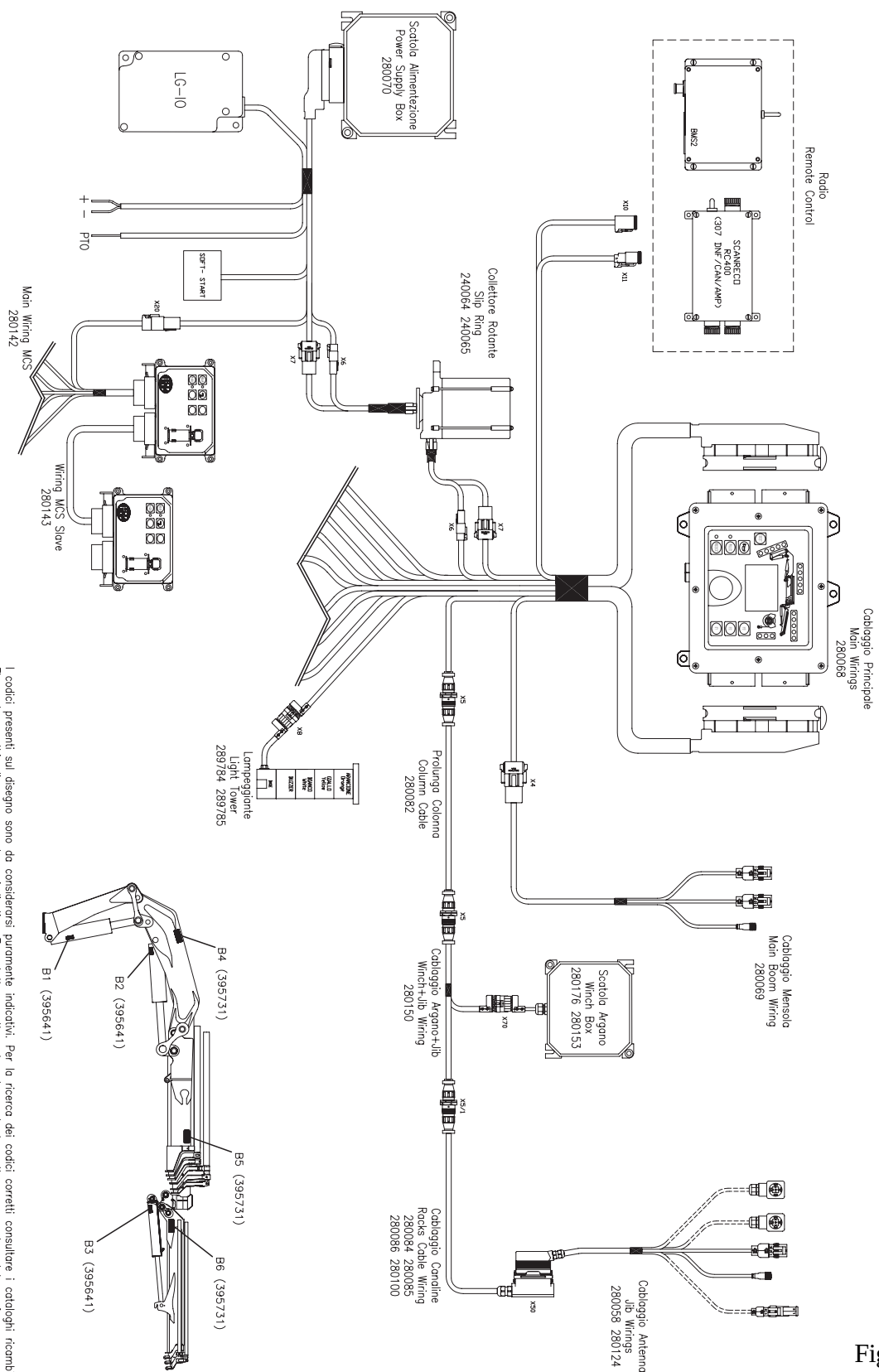


Fig.3-69



**GRU PM 65 SP PT**  
**CRANE PM 65 SP PT**  
**POWER TRONIC**

**GRU STD - ARGANO TC2 - (ANTENNA) - RADIO HETRONIC**  
**CRANE STD - WINCH TC2 - (JIB) - REMOTE CONTROL HETRONIC**

**COD.**

**282524**  
**282527**  
**282530**  
**282525**  
**282526**  
**282532**  
**282535**  
**282536**  
**282568**  
**282544**

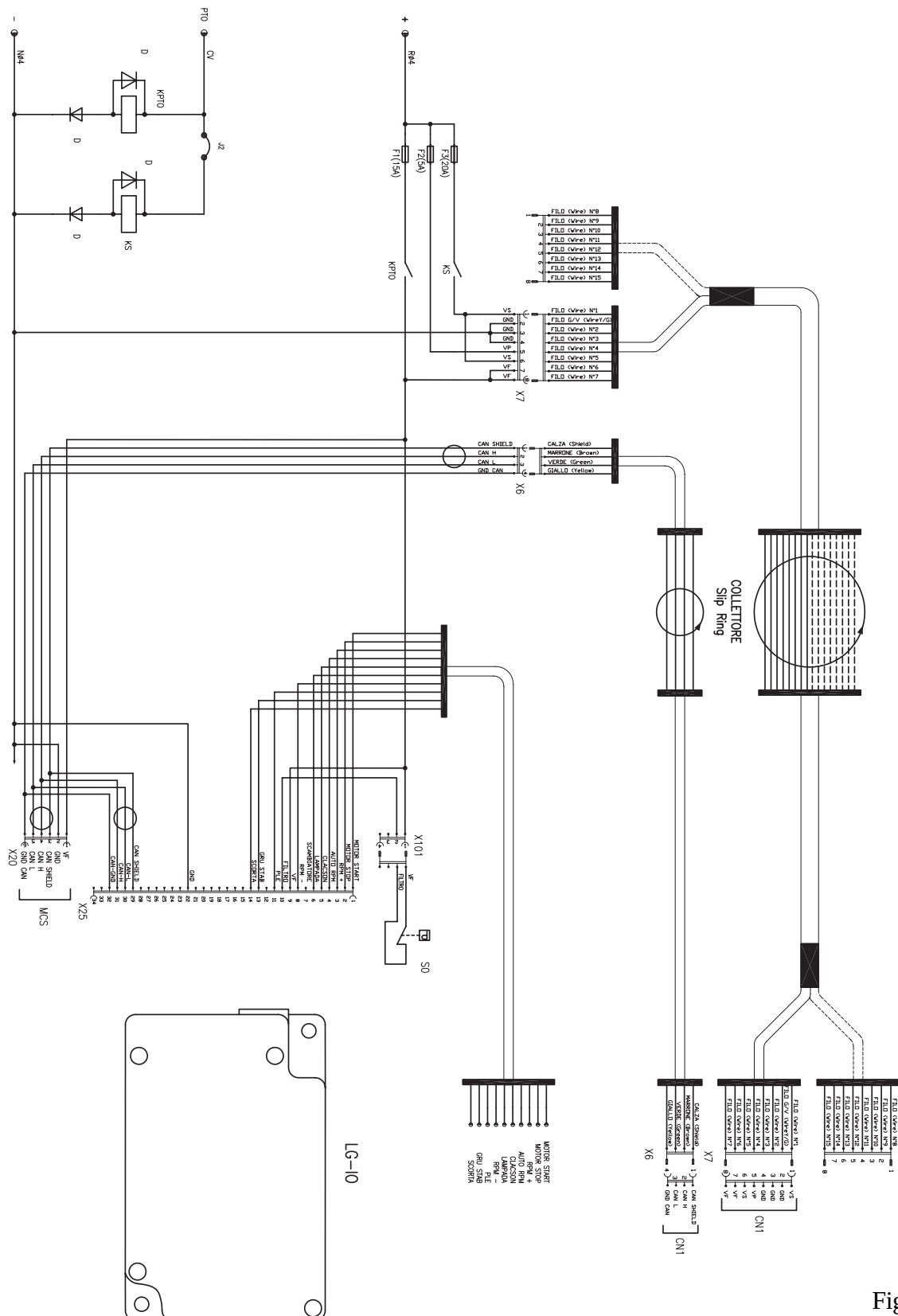


Fig.3-71

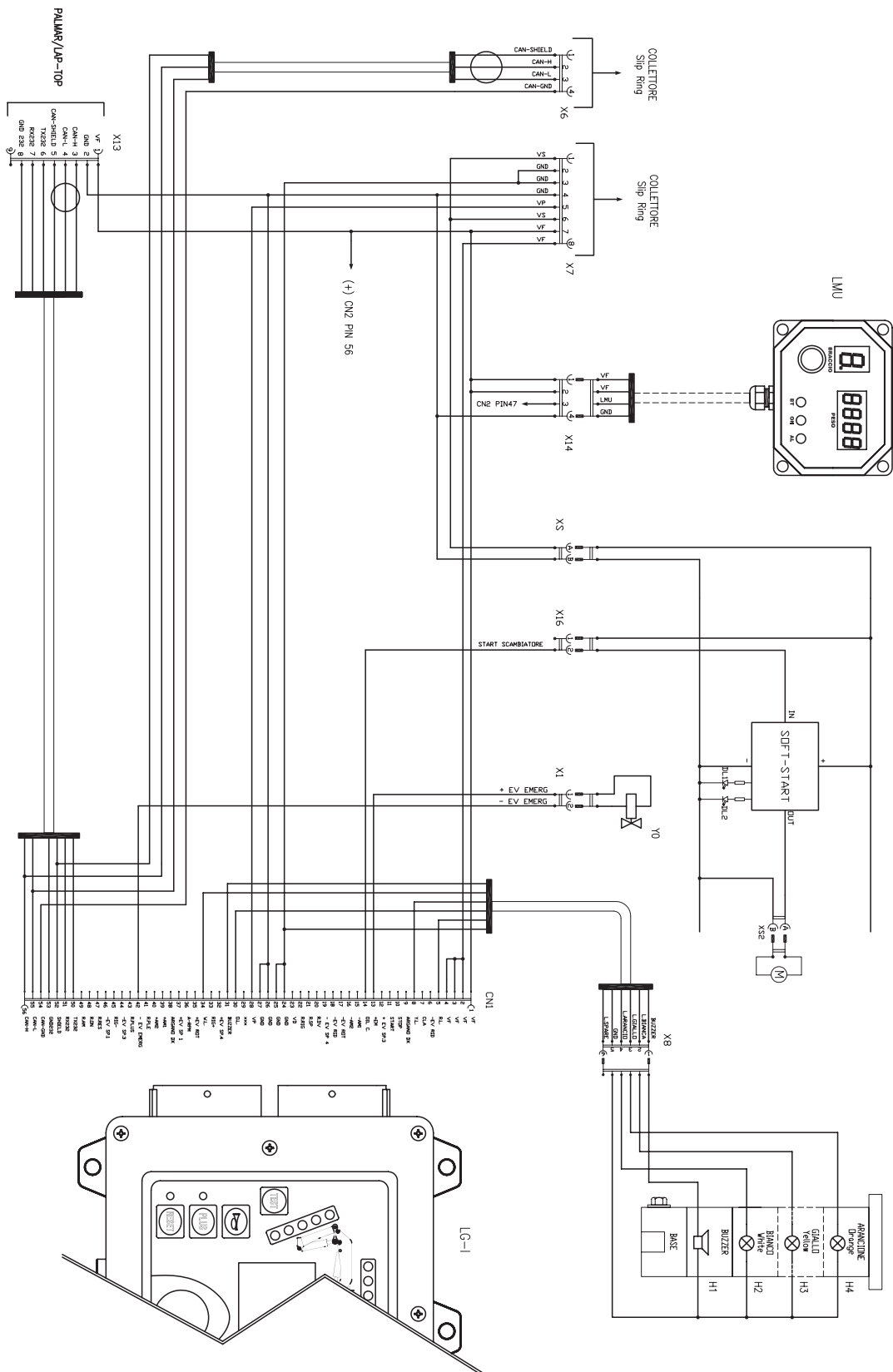
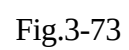


Fig.3-72



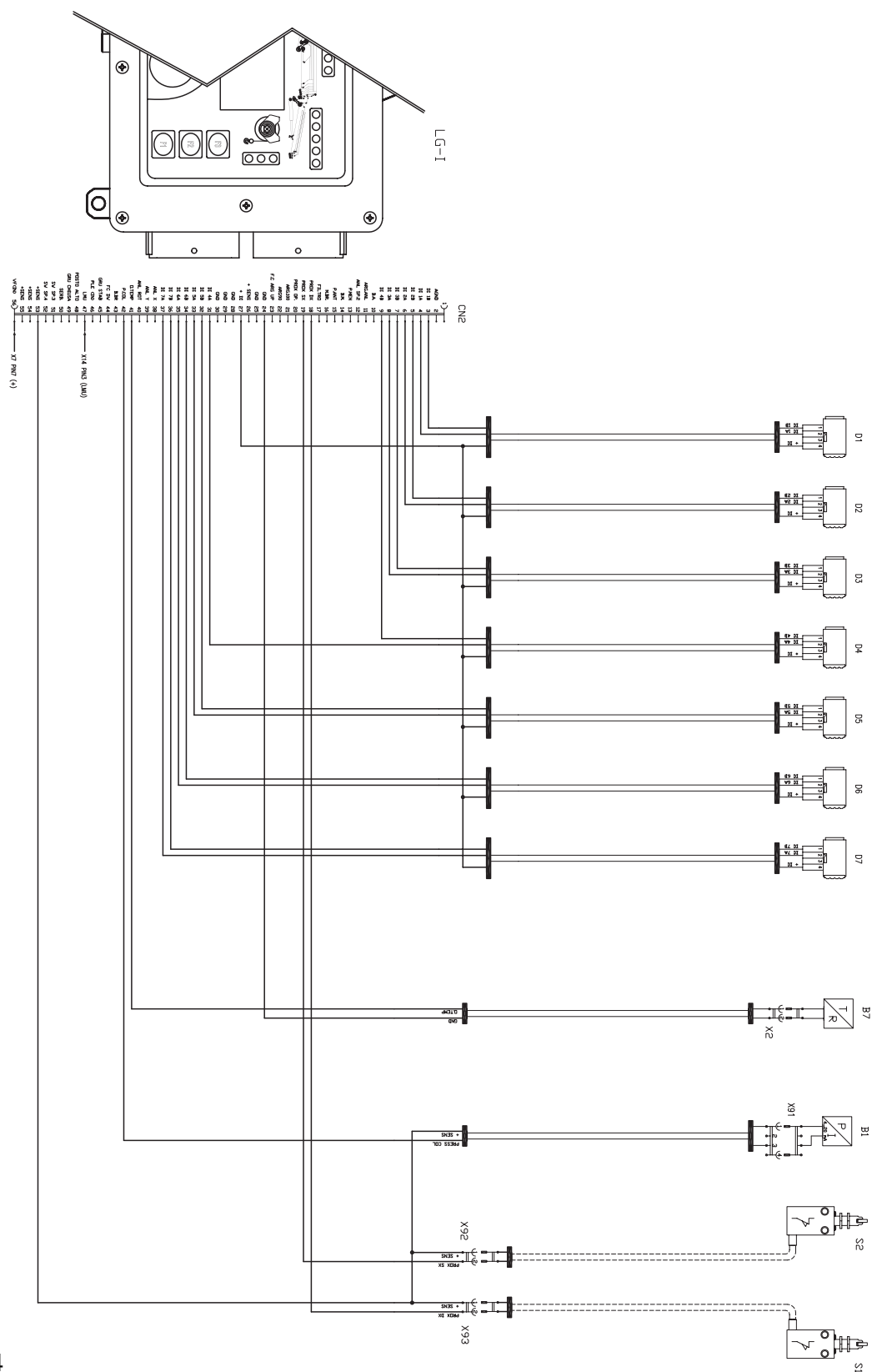


Fig.3-74

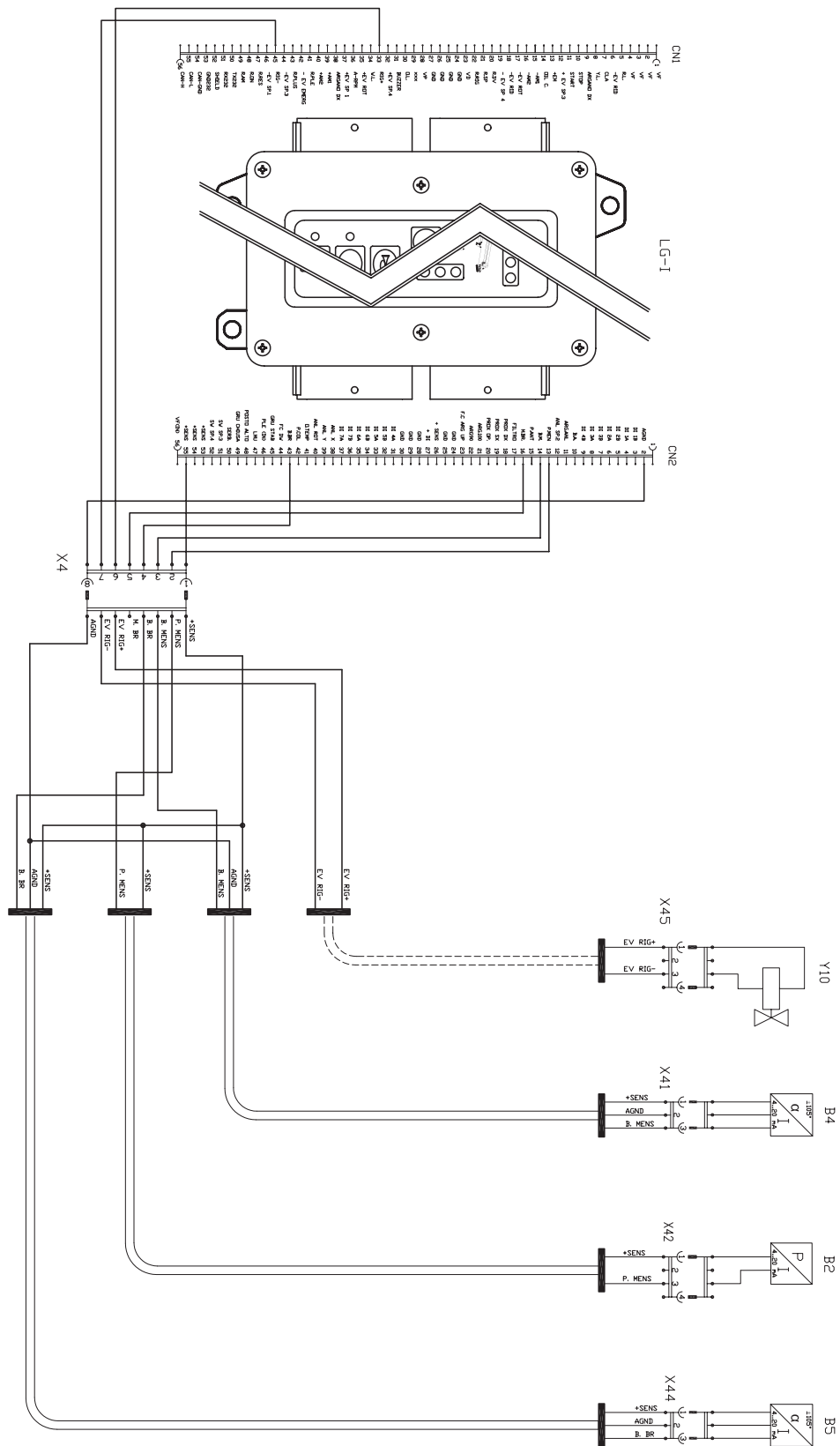


Fig.3-75

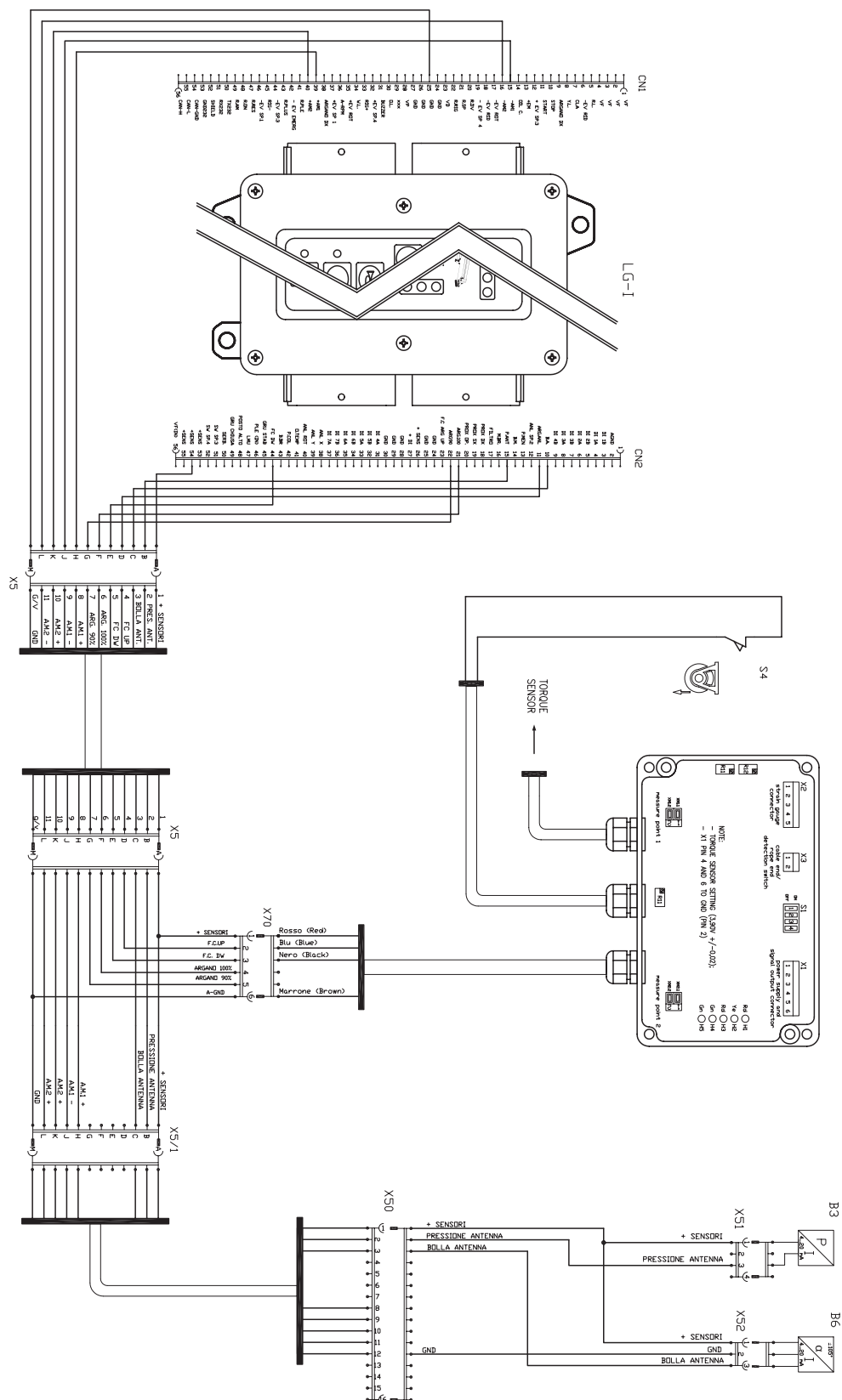
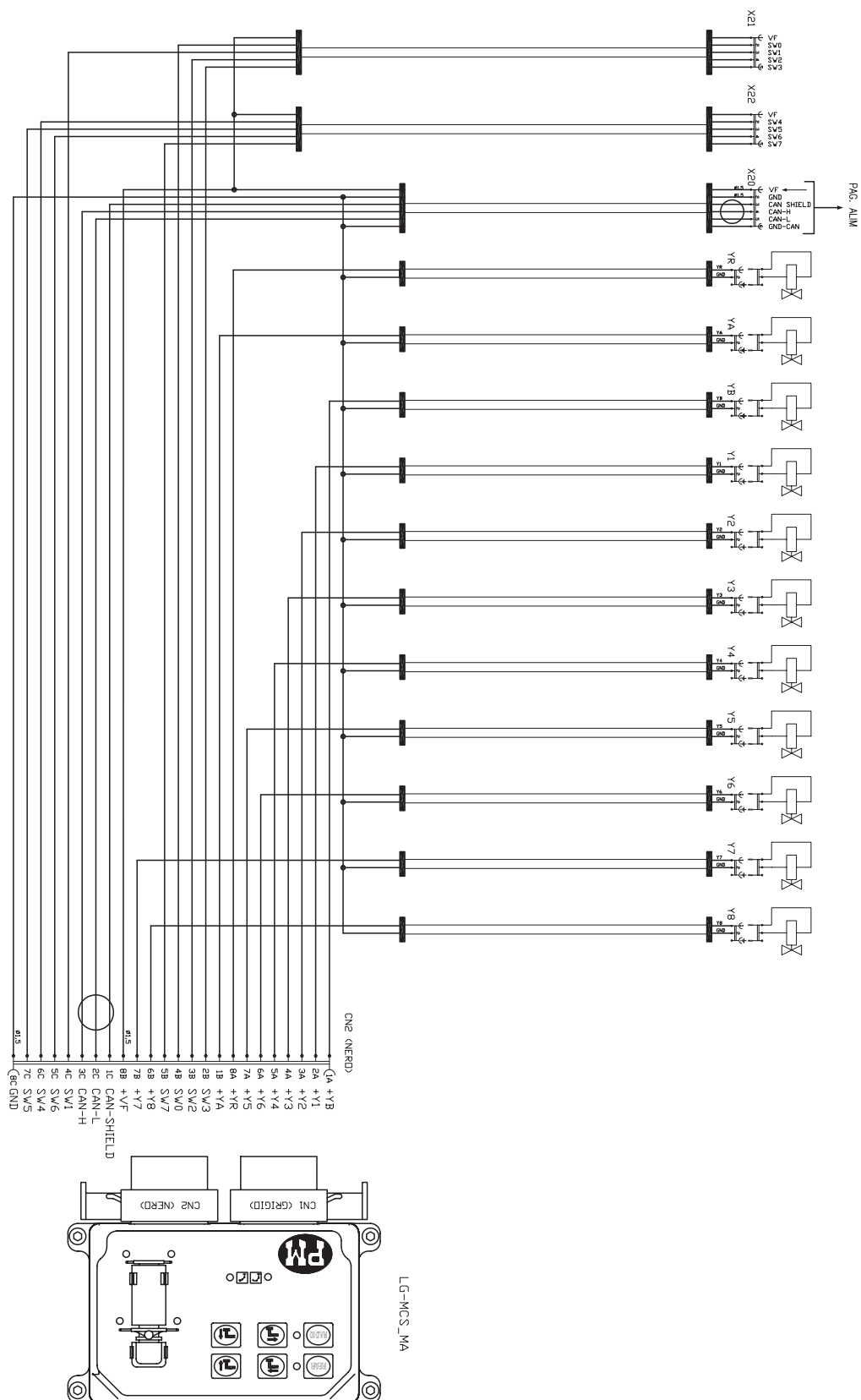


Fig.3-76



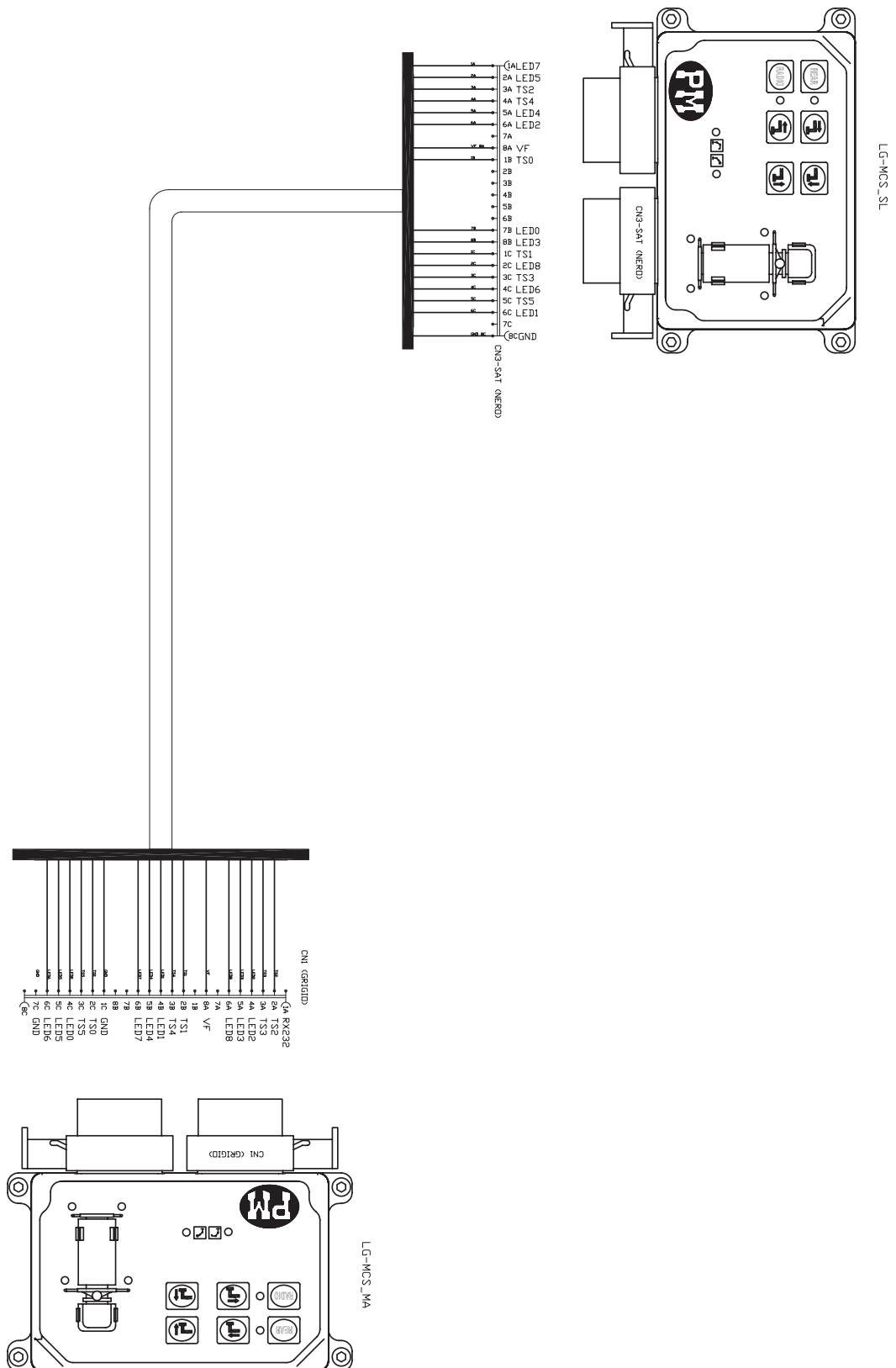


Fig.3-78

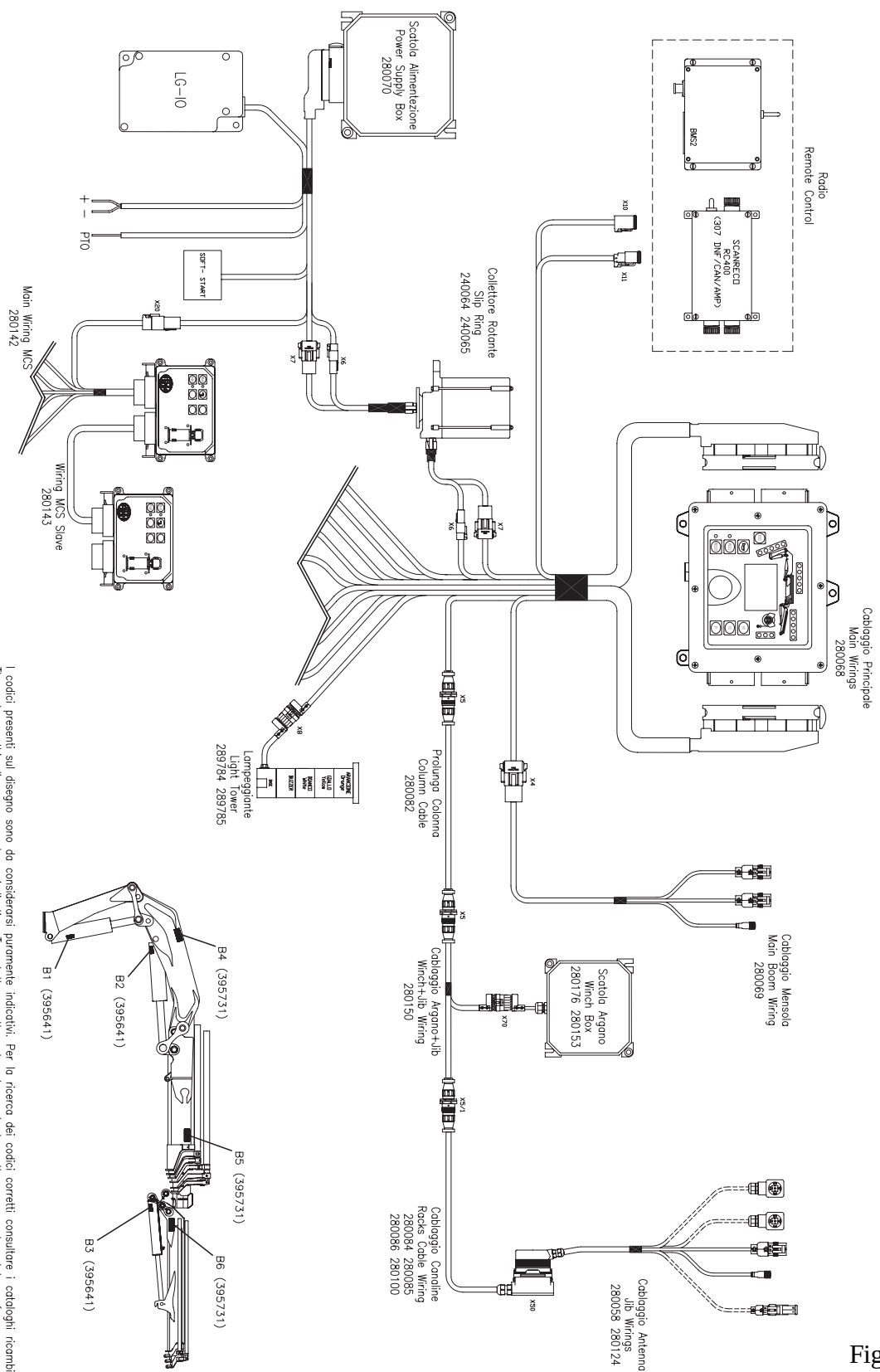


Fig.3-79

Fig.3-80

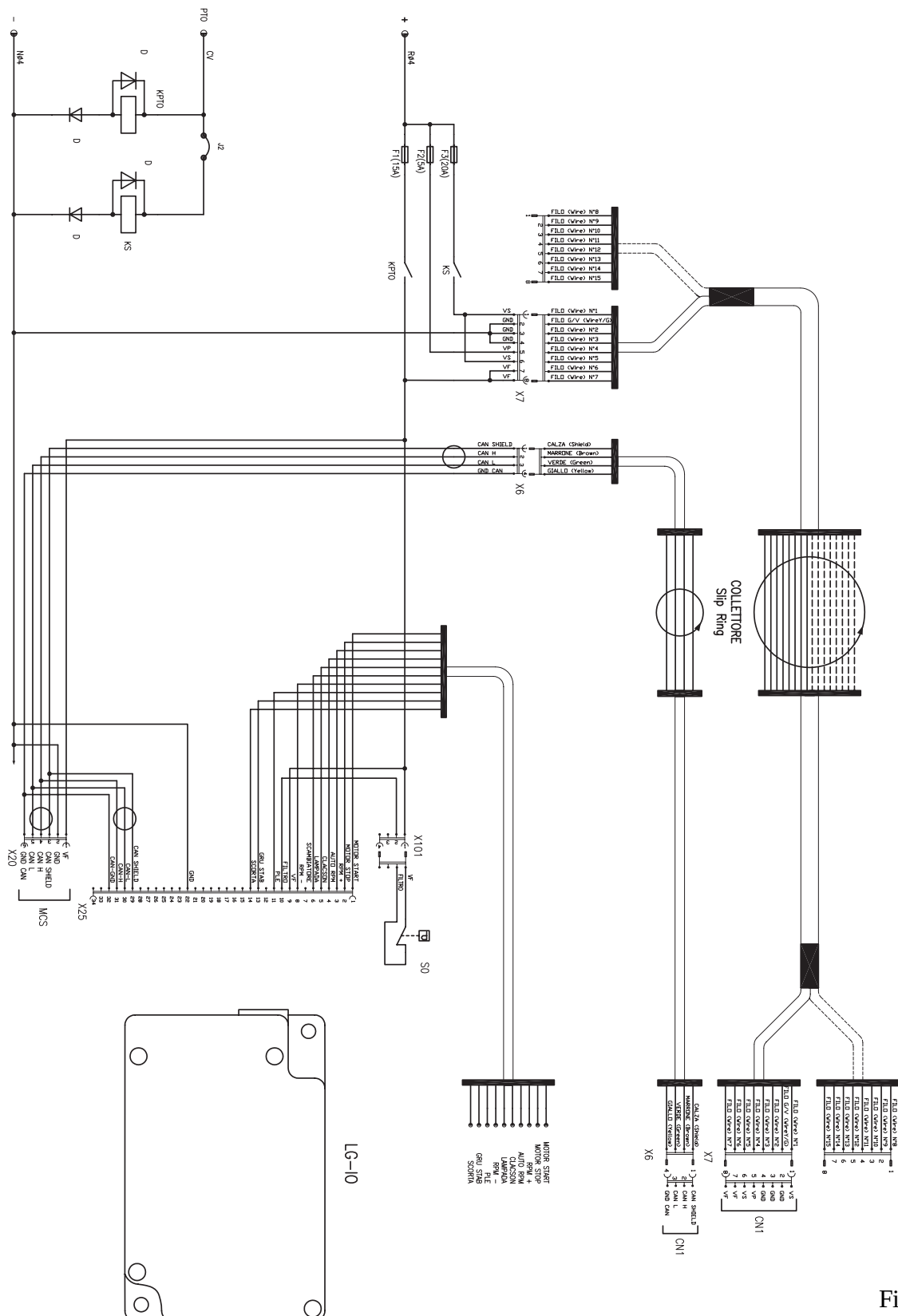
| LEGENDA/LEGEND |                                 |                                         |           |                                   |                                |
|----------------|---------------------------------|-----------------------------------------|-----------|-----------------------------------|--------------------------------|
| NAME/NAME      | FUNZIONE                        | FUNCTION                                | NAME/NAME | FUNZIONE                          | FUNCTION                       |
| CN1            | CONNETTORE SINISTRO CENTRALINA  | RIGHT CONNECTOR CENTRAL UNIT            | D1        | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |
| CN2            | CONNETTORE DESTRO CENTRALINA    | LEFT CONNECTOR CENTRAL UNIT             | D2        | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |
| LG-I           | CENTRALINA POWER TRONIC         | POWER TRONIC MAIN UNIT                  | D3        | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |
| LG-ID          | CENTRALINA INPUT OUTPUT         | INPUT OUTPUT UNIT                       | D4        | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |
| LG-MCS_MA      | MCS MASTER                      | MCS MASTER                              | D5        | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |
| LG-MCS_SL      | MCS SLAVE                       | MCS SLAVE                               | D6        | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |
| LG-SAT         | SATELLITE DOPPIO COMANDO        | SATELLITE OPPOSITE SIDE COMMAND         | D7        | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |
| LMU            | LMU                             | LMU                                     |           |                                   |                                |
| B1             | SENSORE PRESSIONE CILINDRO (P1) | CYLINDER CYLINDER PRESSURE TRANSD. (P1) | Y0        | ELETTROVALVOLA DI EMERGENZA (EY9) | EMERGENCY VALVE (EY9)          |
| B2             | SENSORE PRESSIONE MENSOLA (P2)  | MAIN BDM PRESSURE TRANSDUCER (P2)       | Y10       | ELETTROVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |
| B3             | SENSORE PRESSIONE ANTENNA (P3)  | JIB PRESSURE TRANSDUCER (P3)            | Y60       | AM1                               | MA1                            |
| B4             | SENSORE ANGOLO MENSOLA (A1)     | MAIN ANGLE SENSOR (A1)                  | Y61       | AM2                               | MA2                            |
| B5             | SENSORE ANGOLO BRACCI (A2)      | BDM PACK ANGLE SENSOR (A2)              | YR        | ELETTROVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |
| B6             | SENSORE ANGOLO ANTENNA (A3)     | JIB ANGLE SENSOR (A3)                   | YA        | ELETTROVALVOLA DIR. A             | OUT SOLENOID VALVE             |
| B7             | SENSORE TEMPERATURA OLIO        | OIL TEMPERATURE SENSOR                  | YB        | ELETTROVALVOLA DIR. B             | IN SOLENOID VALVE              |
|                |                                 |                                         | Y1        | ELETTROVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |
|                |                                 |                                         | Y2        | ELETTROVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |
| S0             | FILTRO                          | FILTER                                  | Y3        | ELETTROVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |
| S1             | MICRO ROTAZIONE DX              | SLEEVING RIGHT MICROSWITCH              | Y4        | ELETTROVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |
| S2             | MICRO ROTAZIONE SX              | SLEEVING LEFT MICROSWITCH               | Y5        | ELETTROVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |
| S3             | MICRO FINECORSO SALITA ARGANO   | WINCH END STRIKE-UP MICROSWITCH         | Y6        | ELETTROVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |
| S4             | MICRO FINECORSO DISCESA ARGANO  | WINCH END STRIKE DOWN MICROSWITCH       | Y7        | ELETTROVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |
| S5             | MICRO PACCO BRACCI RIENTRATO    | BDM PACK FOLDED MICROSWITCH             | Y8        | ELETTROVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |
|                |                                 |                                         |           |                                   |                                |
| M              | VENTILATA SCAMBIATORE           | OIL COOLER FAN                          |           |                                   |                                |
|                |                                 |                                         |           |                                   |                                |
| H1             | CICALINO                        | BUZZER                                  |           |                                   |                                |
| H2             | LUCE BIANCA                     | WHITE LIGHT                             |           |                                   |                                |
| H3             | LUCE GIALLA                     | YELLOW LIGHT                            |           |                                   |                                |
| H4             | LUCE ARANCIO                    | ORANGE LIGHT                            |           |                                   |                                |

**GRU PM 65 SP PT**  
**CRANE PM 65 SP PT**  
**POWER TRONIC**

**GRU STD - (ANTENNA) - ARGANO TC2 - ATTIVAZIONE MULTIPLA - RADIO SCANRECO**  
**CRANE STD - (JIB) WINCH TC2 - MULTIPLE ACTIVATE DEVICE - REMOTE CONTROL**  
**SCANRECO**

**COD.**

282524  
282527  
282529  
282525  
282526  
282558  
282535  
282536  
282568  
282544



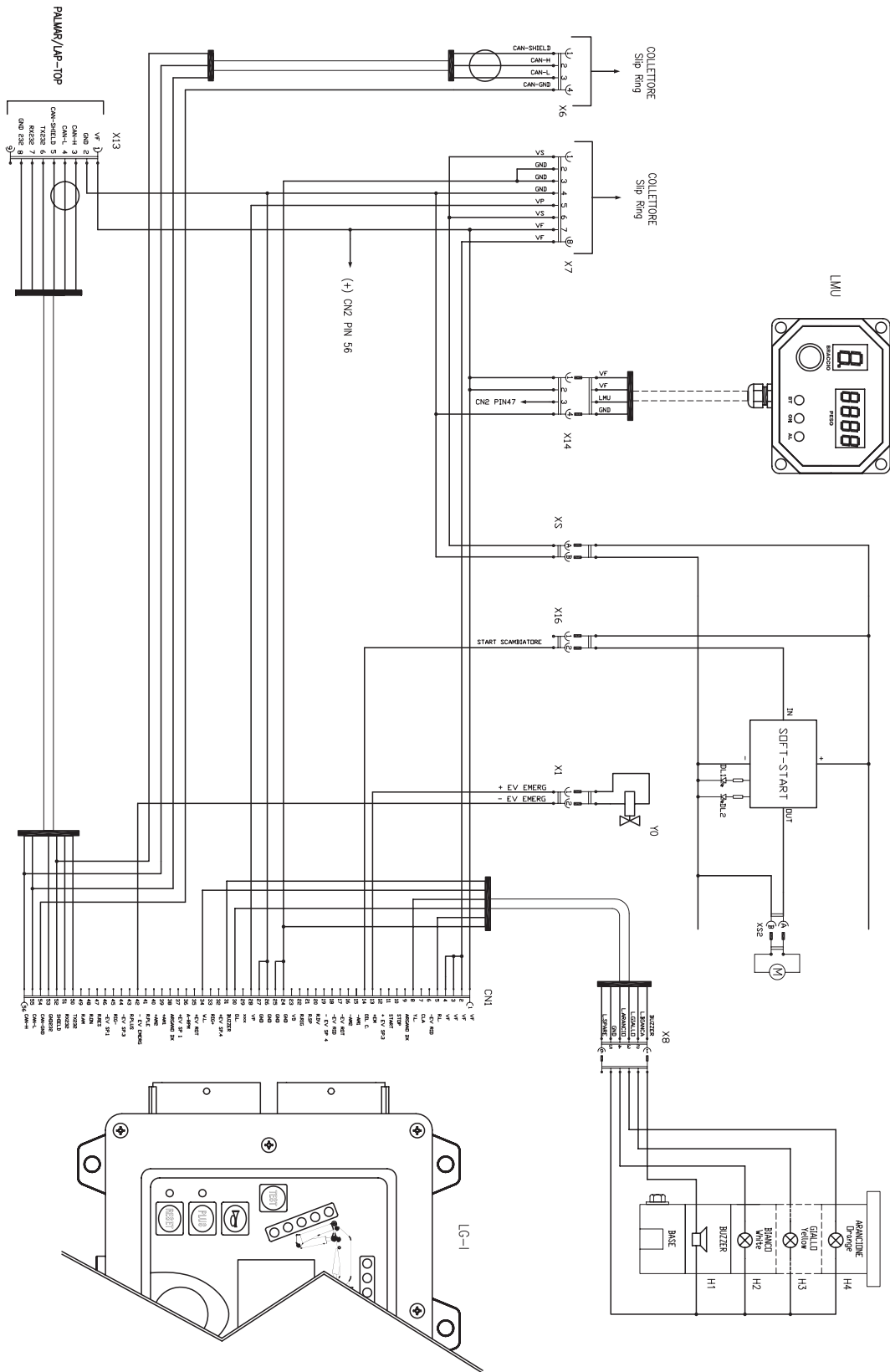


Fig.3-82

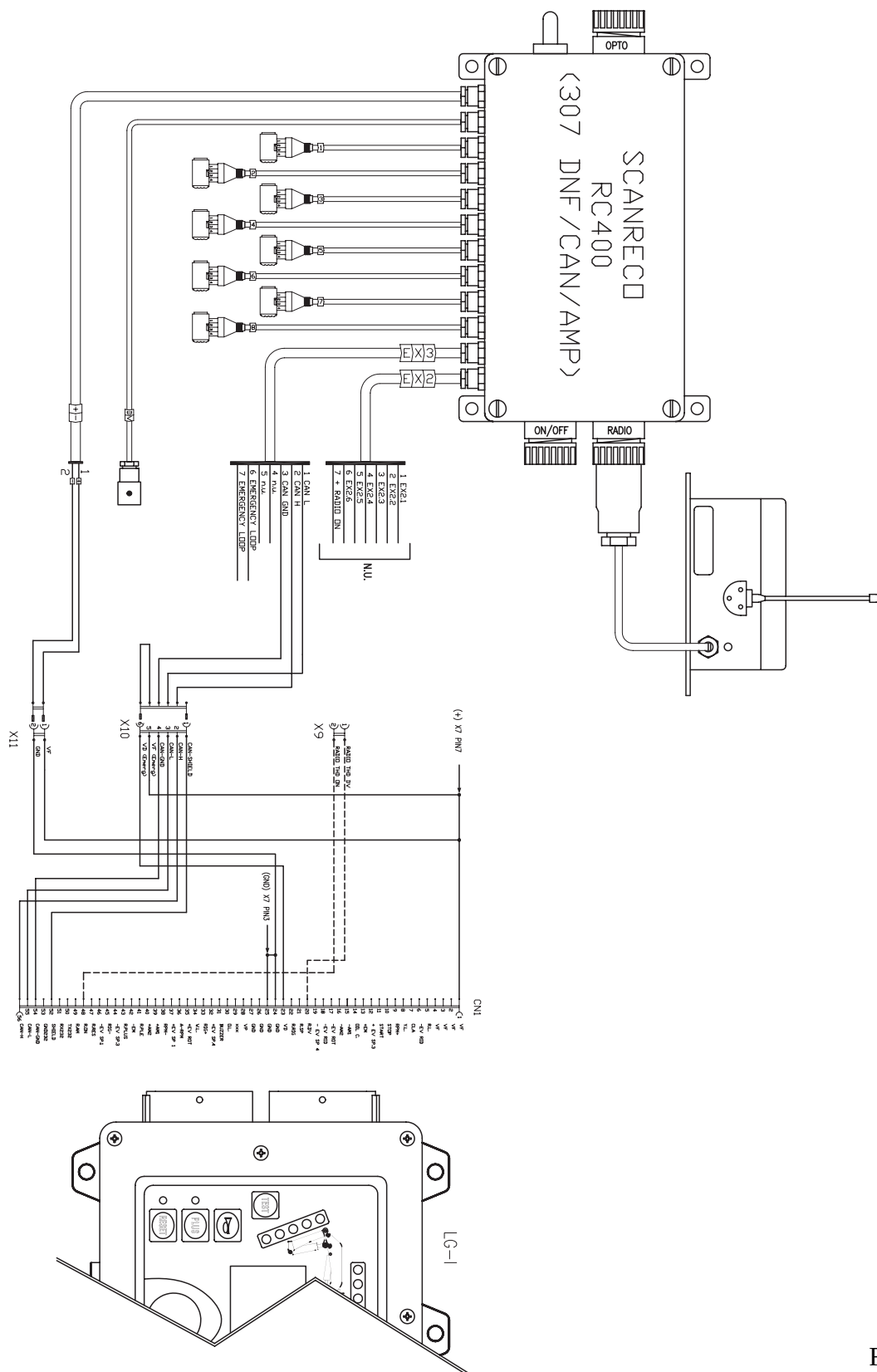


Fig.3-83

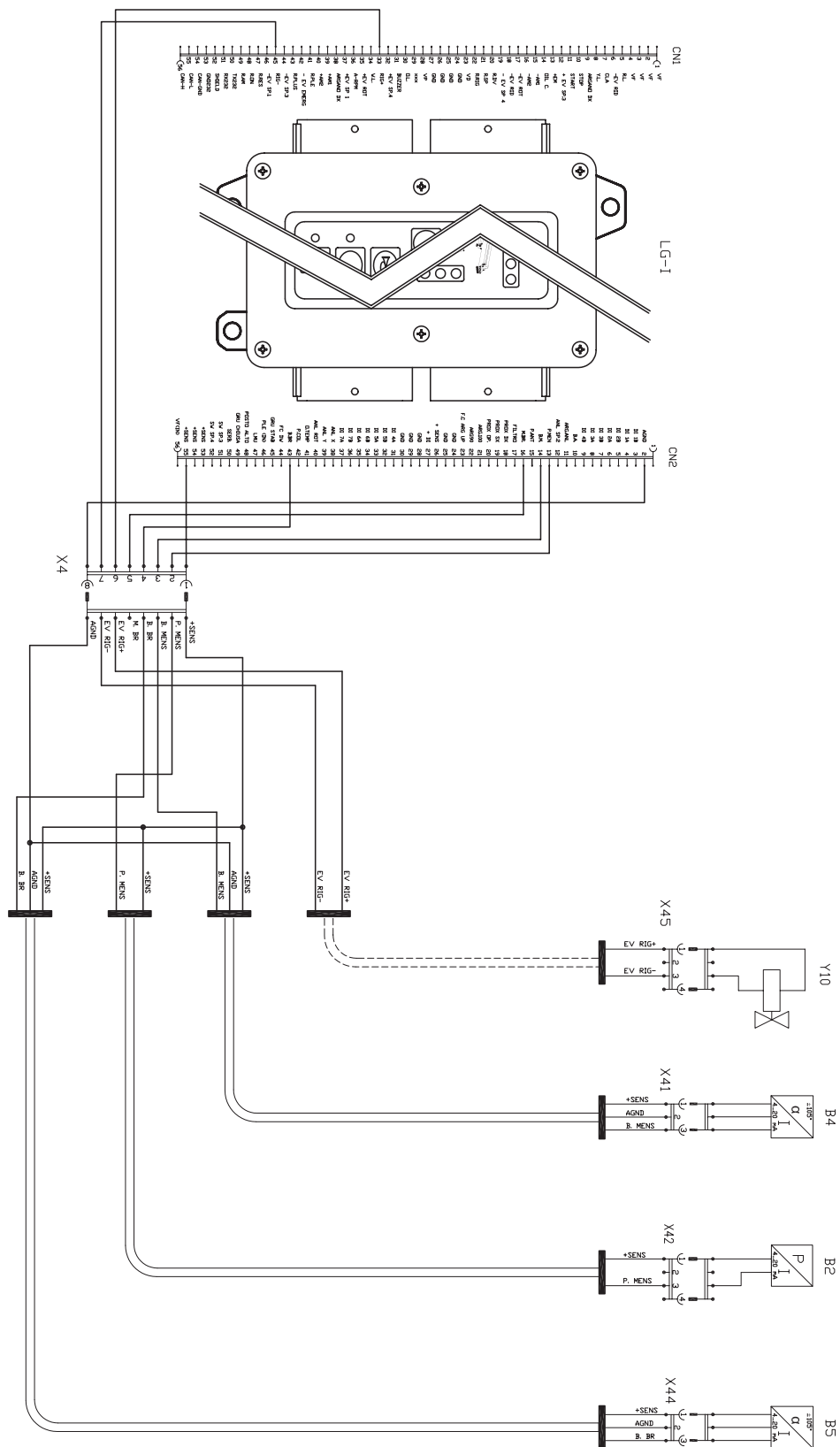


Fig.3-84

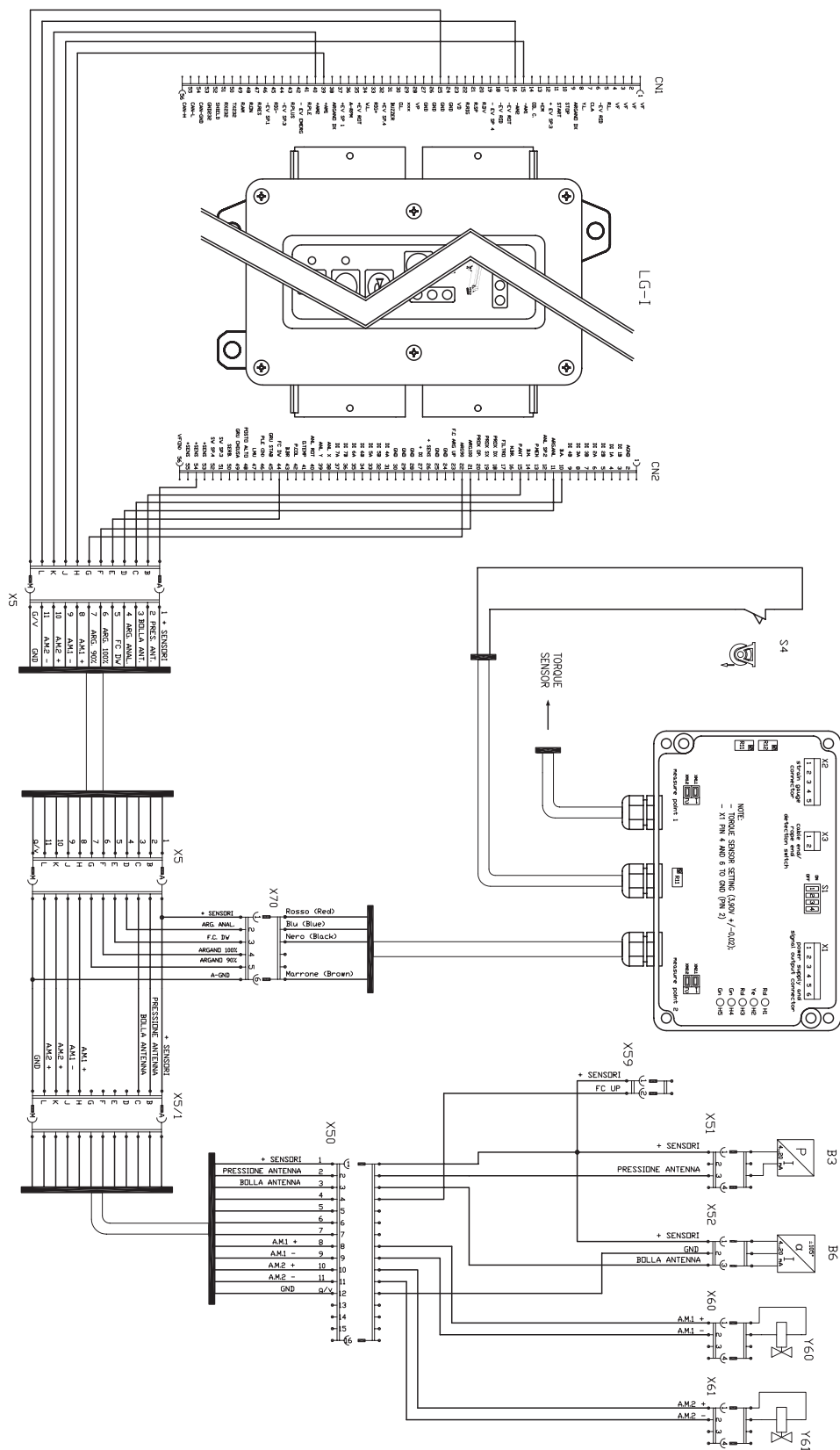


Fig.3-85

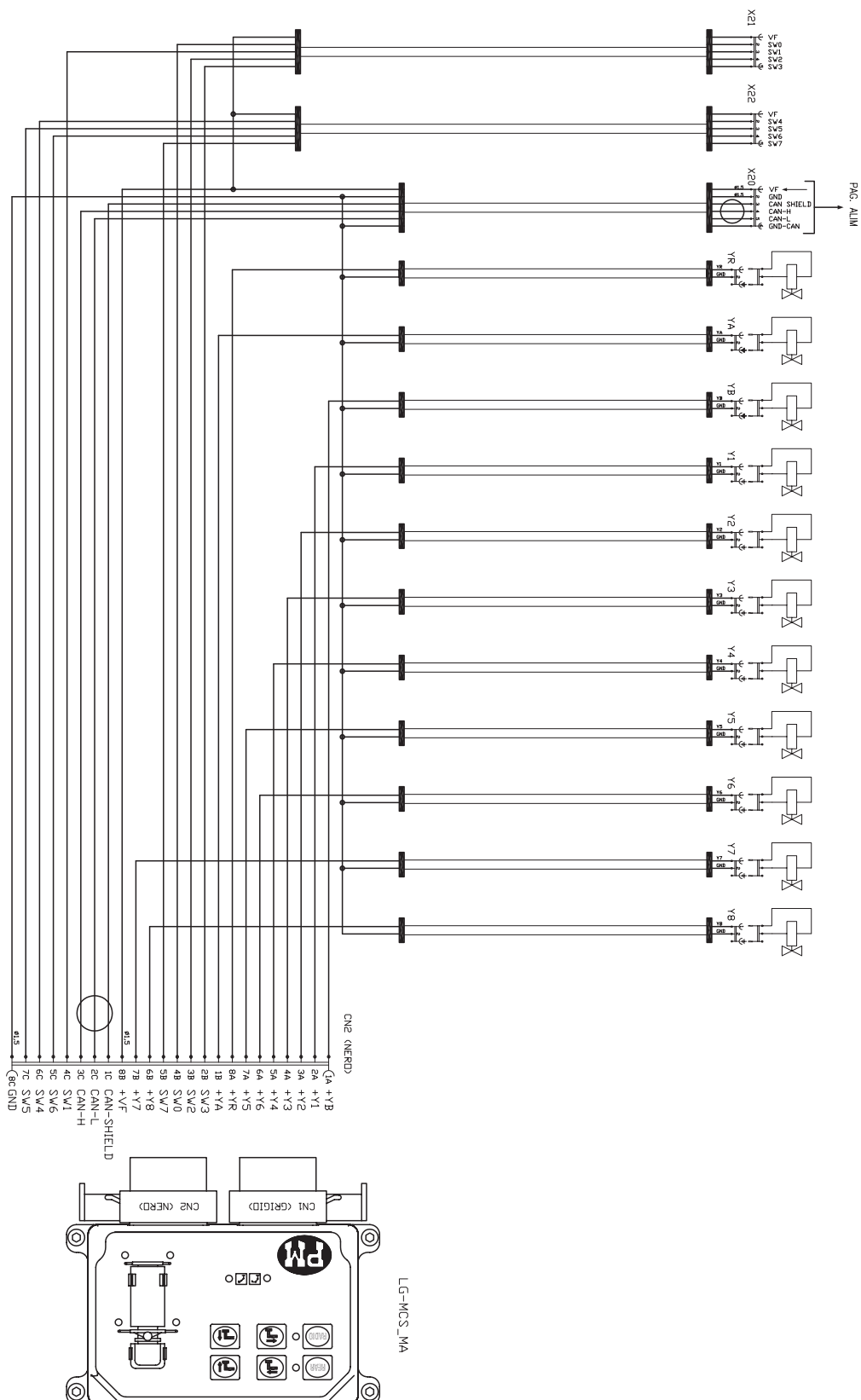


Fig.3-86

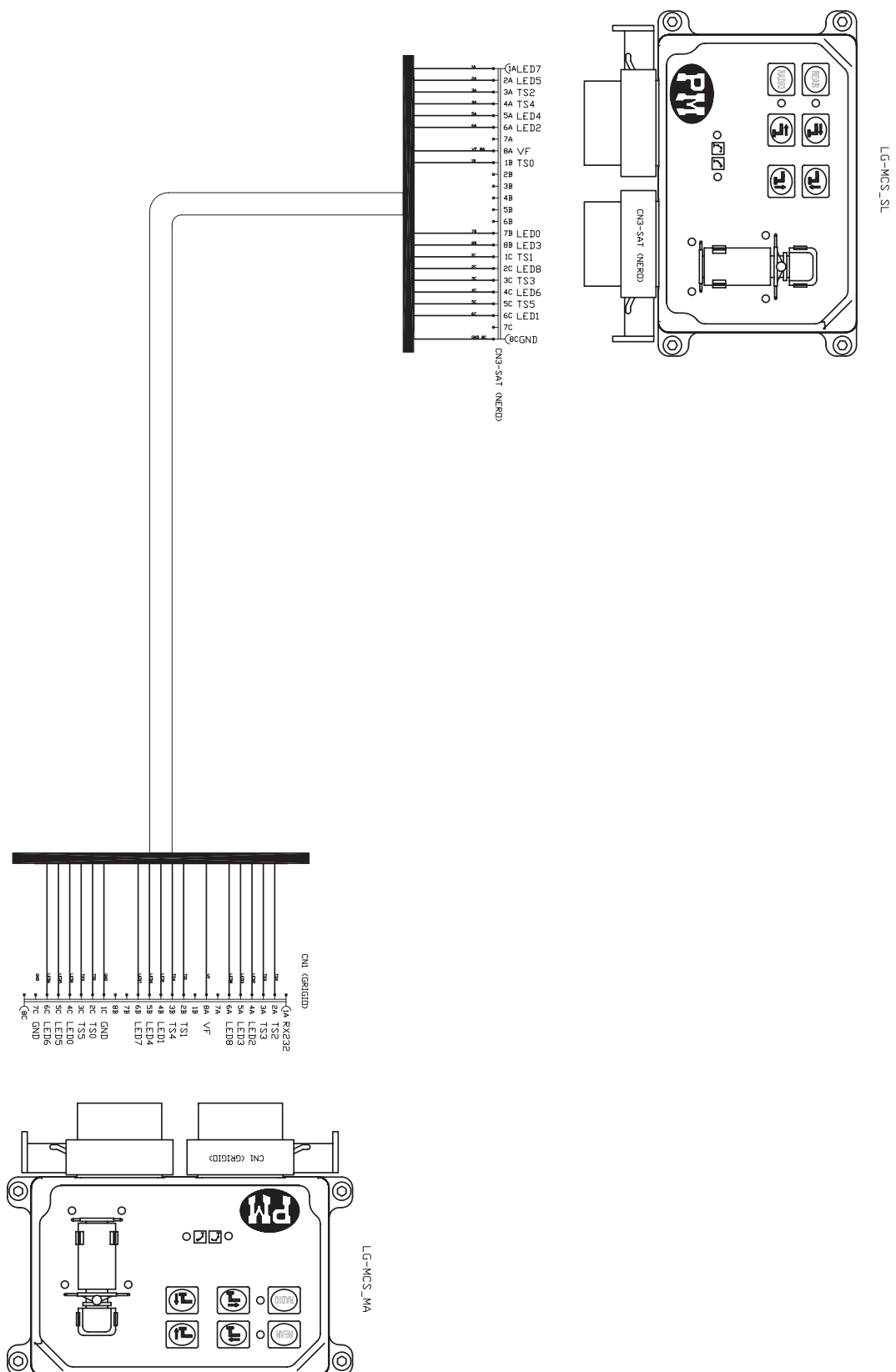


Fig.3-87

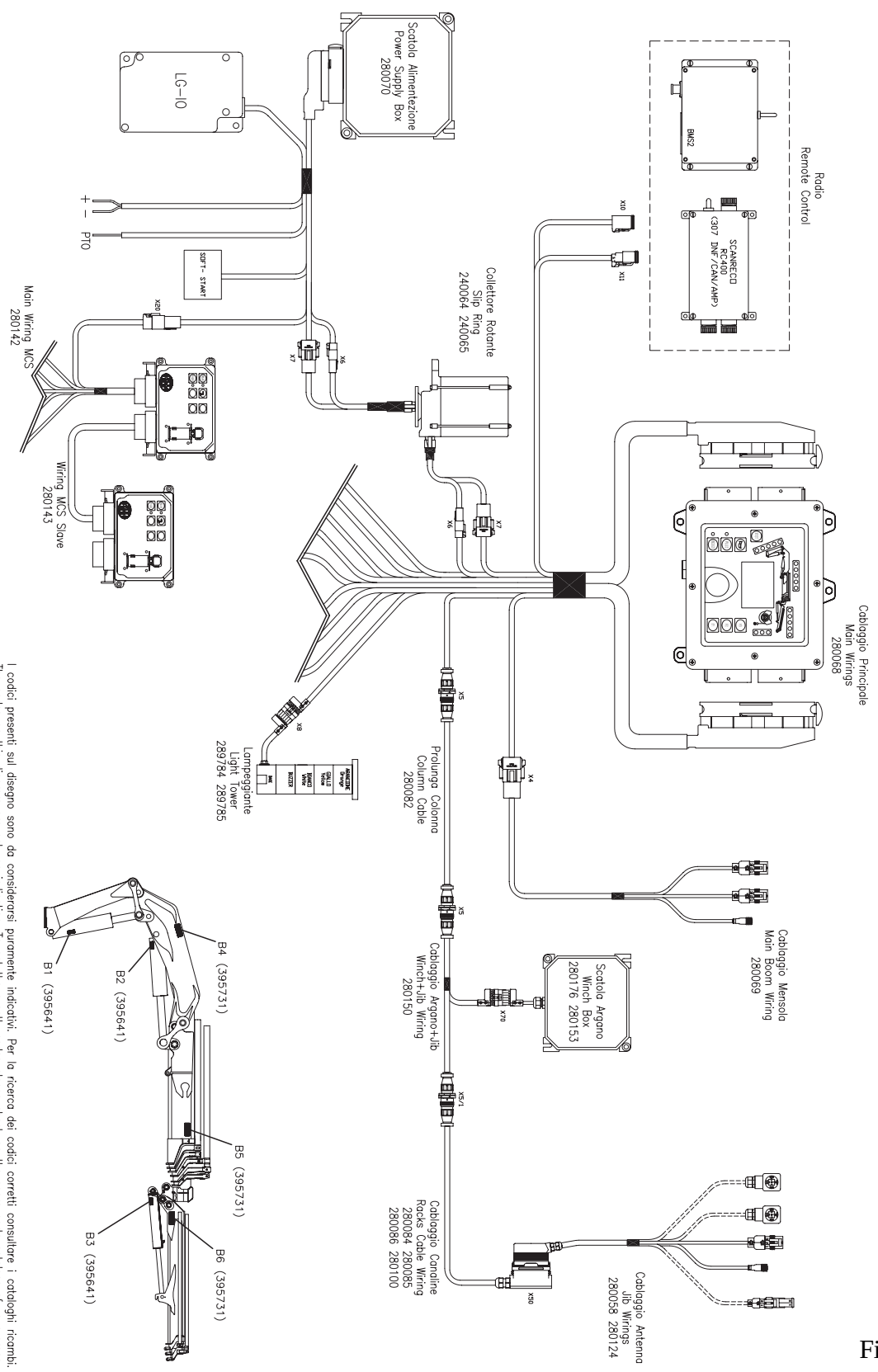


Fig.3-88

Fig.3-89

| LEGENDA/LEGEND |                                 |                                         |           |                                   |                                |
|----------------|---------------------------------|-----------------------------------------|-----------|-----------------------------------|--------------------------------|
| NOME/NAME      | FUNZIONE                        | FUNCTION                                | NOME/NAME | FUNZIONE                          | FUNCTION                       |
| CN1            | CONNETTORE SINISTRO CENTRALINA  | RIGHT CONNECTOR CENTRAL UNIT            | D1        | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |
| CN2            | CONNETTORE DESTRO CENTRALINA    | LEFT CONNECTOR CENTRAL UNIT             | D2        | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |
| LG-I           | CENTRALINA POWER TRONIC         | POWER TRONIC MAIN UNIT                  | D3        | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |
| LG-ID          | CENTRALINA INPUT OUTPUT         | INPUT OUTPUT UNIT                       | D4        | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |
| LG-MCS_MA      | MCS MASTER                      | MCS MASTER                              | D5        | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |
| LG-MCS_SL      | MCS SLAVE                       | MCS SLAVE                               | D6        | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |
| LG-SAT         | SATELLITE DOPPIO COMANDO        | SATELLITE OPPOSITE SIDE COMMAND         | D7        | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |
| LMU            | LMU                             | LMU                                     |           |                                   |                                |
| B1             | SENSORE PRESSIONE CILINDRO (P1) | CYLINDER CYLINDER PRESSURE TRANSD. (P1) | Y0        | ELETTROVALVOLA DI EMERGENZA (EY9) | EMERGENCY VALVE (EY9)          |
| B2             | SENSORE PRESSIONE MENSOLA (P2)  | MAIN BDM PRESSURE TRANSDUCER (P2)       | Y10       | ELETTROVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |
| B3             | SENSORE PRESSIONE ANTENNA (P3)  | JIB PRESSURE TRANSDUCER (P3)            | Y60       | AM1                               | MA1                            |
| B4             | SENSORE ANGOLO MENSOLA (A1)     | MAIN ANGLE SENSOR (A1)                  | Y61       | AM2                               | MA2                            |
| B5             | SENSORE ANGOLO BRACCI (A2)      | BDM PACK ANGLE SENSOR (A2)              | YR        | ELETTROVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |
| B6             | SENSORE ANGOLO ANTENNA (A3)     | JIB ANGLE SENSOR (A3)                   | YA        | ELETTROVALVOLA DIR. A             | OUT SOLENOID VALVE             |
| B7             | SENSORE TEMPERATURA OLIO        | OIL TEMPERATURE SENSOR                  | YB        | ELETTROVALVOLA DIR. B             | IN SOLENOID VALVE              |
|                |                                 |                                         | Y1        | ELETTROVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |
|                |                                 |                                         | Y2        | ELETTROVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |
| S0             | FILTRO                          | FILTER                                  | Y3        | ELETTROVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |
| S1             | MICRO ROTAZIONE DX              | SLEEVING RIGHT MICROSWITCH              | Y4        | ELETTROVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |
| S2             | MICRO ROTAZIONE SX              | SLEEVING LEFT MICROSWITCH               | Y5        | ELETTROVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |
| S3             | MICRO FINECORSO SALITA ARGANO   | WINCH END STRIKE-UP MICROSWITCH         | Y6        | ELETTROVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |
| S4             | MICRO FINECORSO DISCESA ARGANO  | WINCH END STRIKE DOWN MICROSWITCH       | Y7        | ELETTROVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |
| S5             | MICRO PACCO BRACCI RIENTRATO    | BDM PACK FOLDED MICROSWITCH             | Y8        | ELETTROVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |
|                |                                 |                                         |           |                                   |                                |
| M              | VENTILATA SCAMBIATORE           | OIL COOLER FAN                          |           |                                   |                                |
|                |                                 |                                         |           |                                   |                                |
| H1             | CICALINO                        | BUZZER                                  |           |                                   |                                |
| H2             | LUCE BIANCA                     | WHITE LIGHT                             |           |                                   |                                |
| H3             | LUCE GIALLA                     | YELLOW LIGHT                            |           |                                   |                                |
| H4             | LUCE ARANCIO                    | ORANGE LIGHT                            |           |                                   |                                |

**GRU PM 65 SP PT**  
**CRANE PM 65 SP PT**  
**POWER TRONIC**

**GRU STD - (ANTENNA) - ARGANO TC2 - ATTIVAZIONE MULTIPLA - RADIO HETRONIC**  
**CRANE STD - (JIB) WINCH TC2 - MULTIPLE ACTIVATE DEVICE - REMOTE CONTROL**  
**HETRONIC**

**COD.**

**282524**

**282527**

**282530**

**282525**

**282526**

**282558**

**282535**

**282536**

**282568**

**282544**

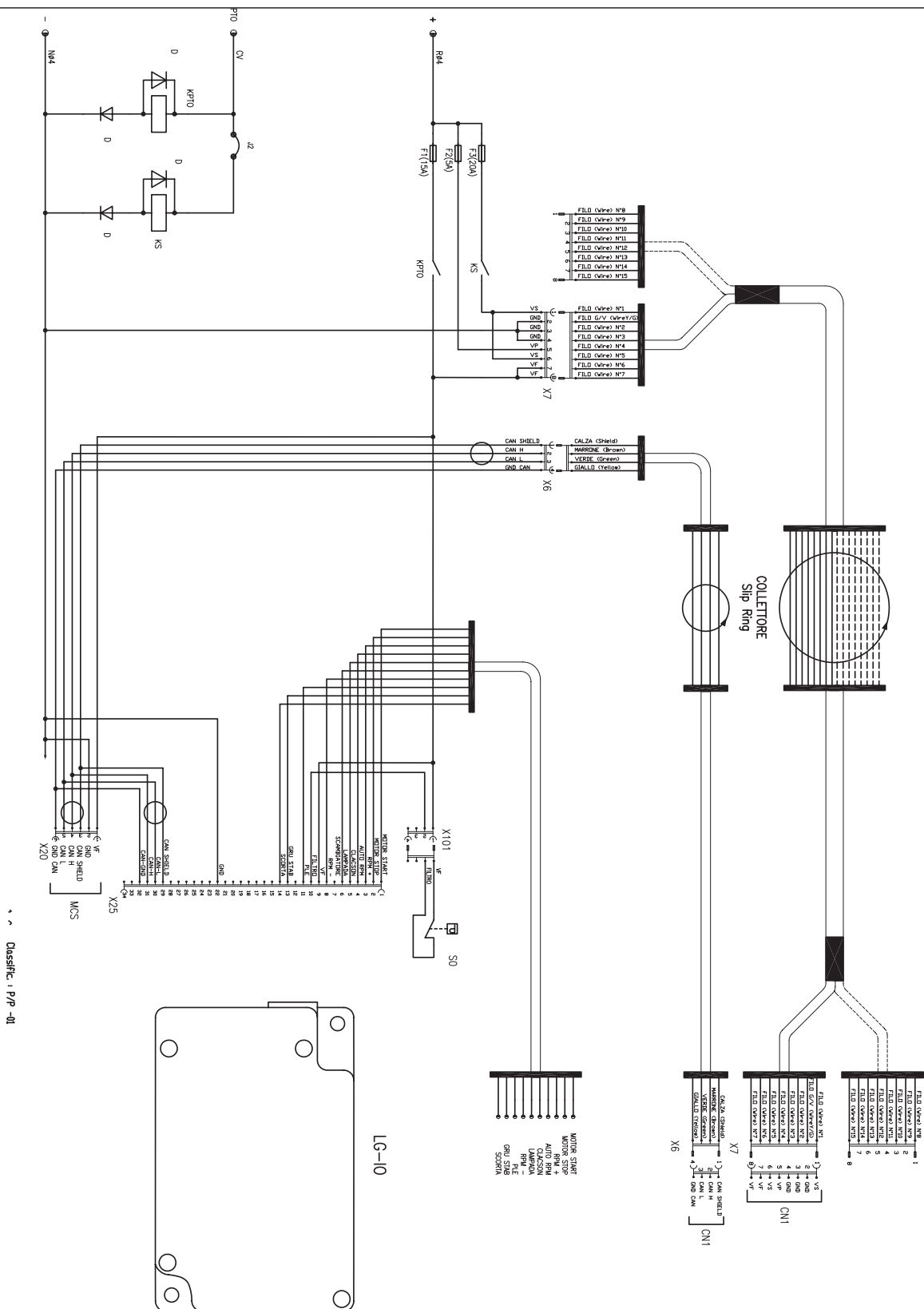
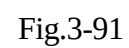


Fig.3-90



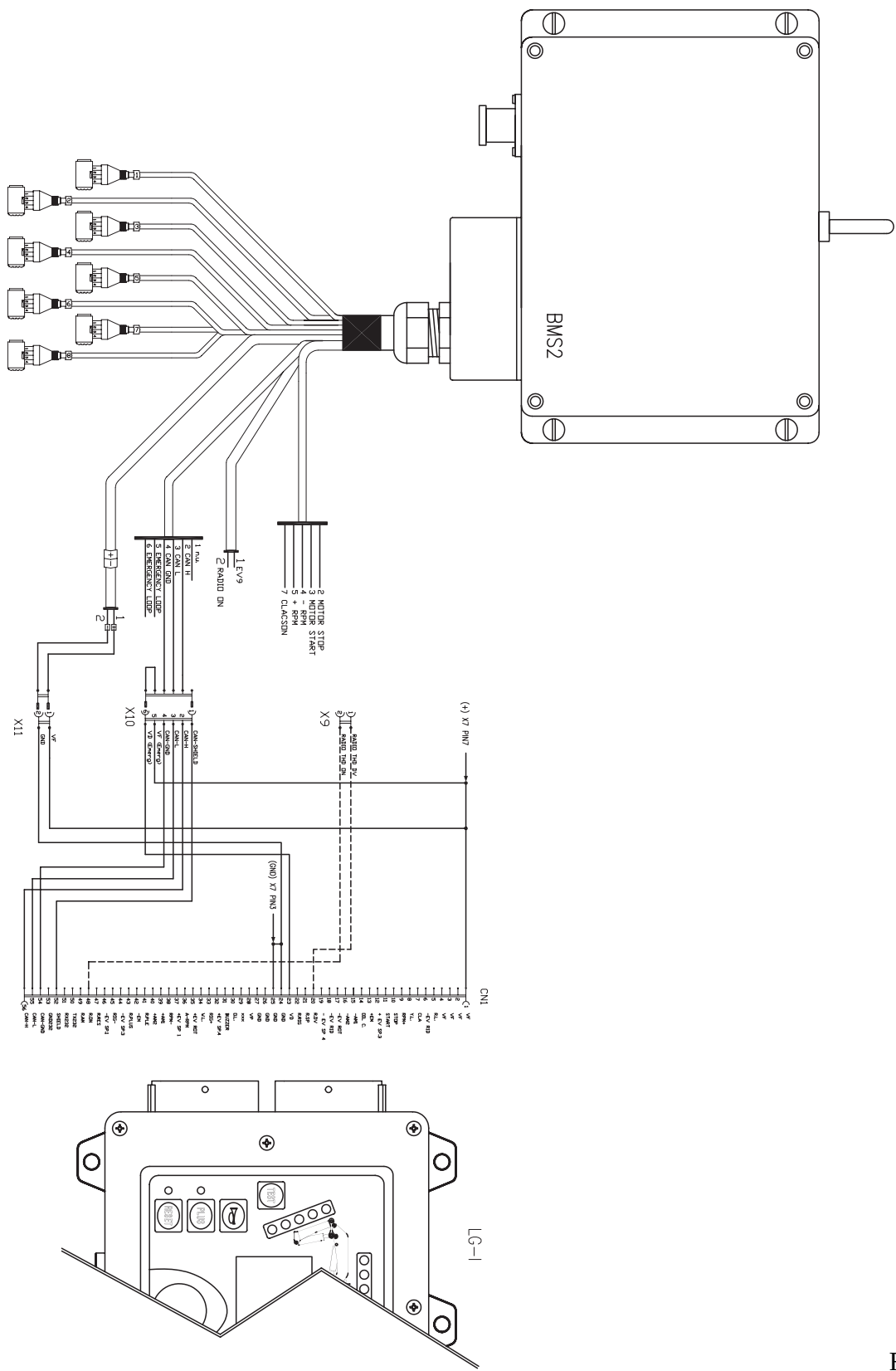


Fig.3-92

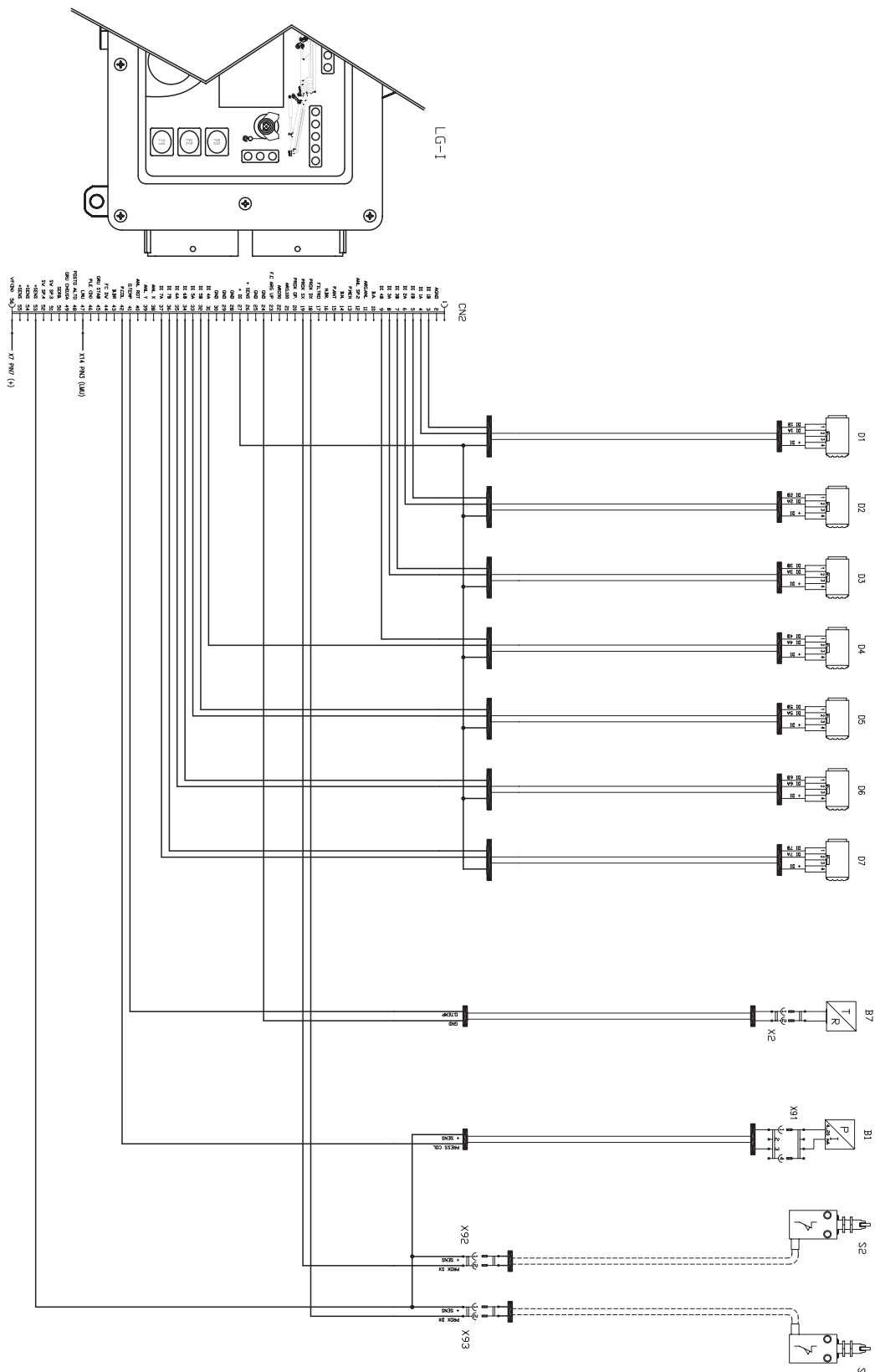


Fig.3-93

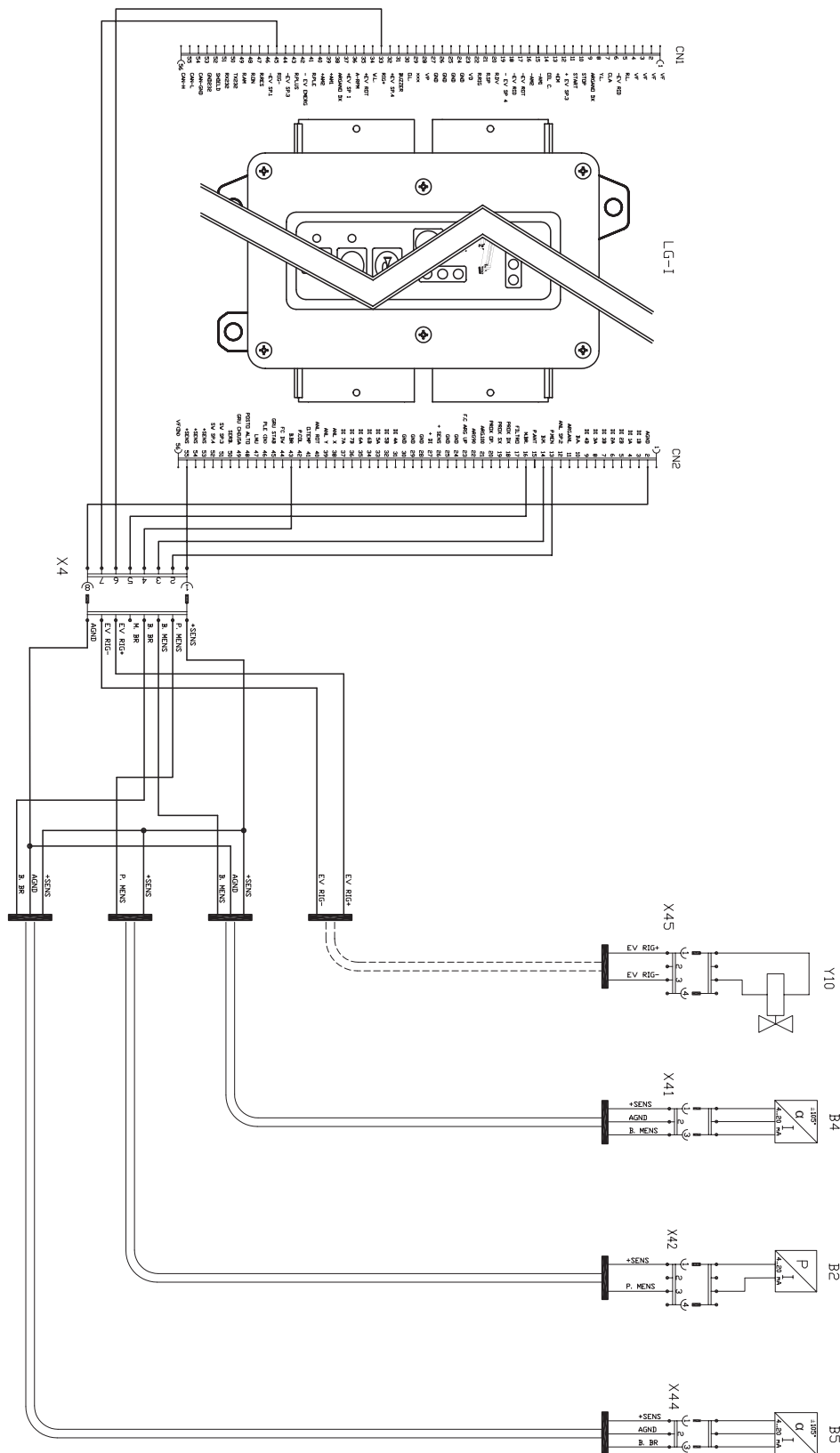


Fig.3-94

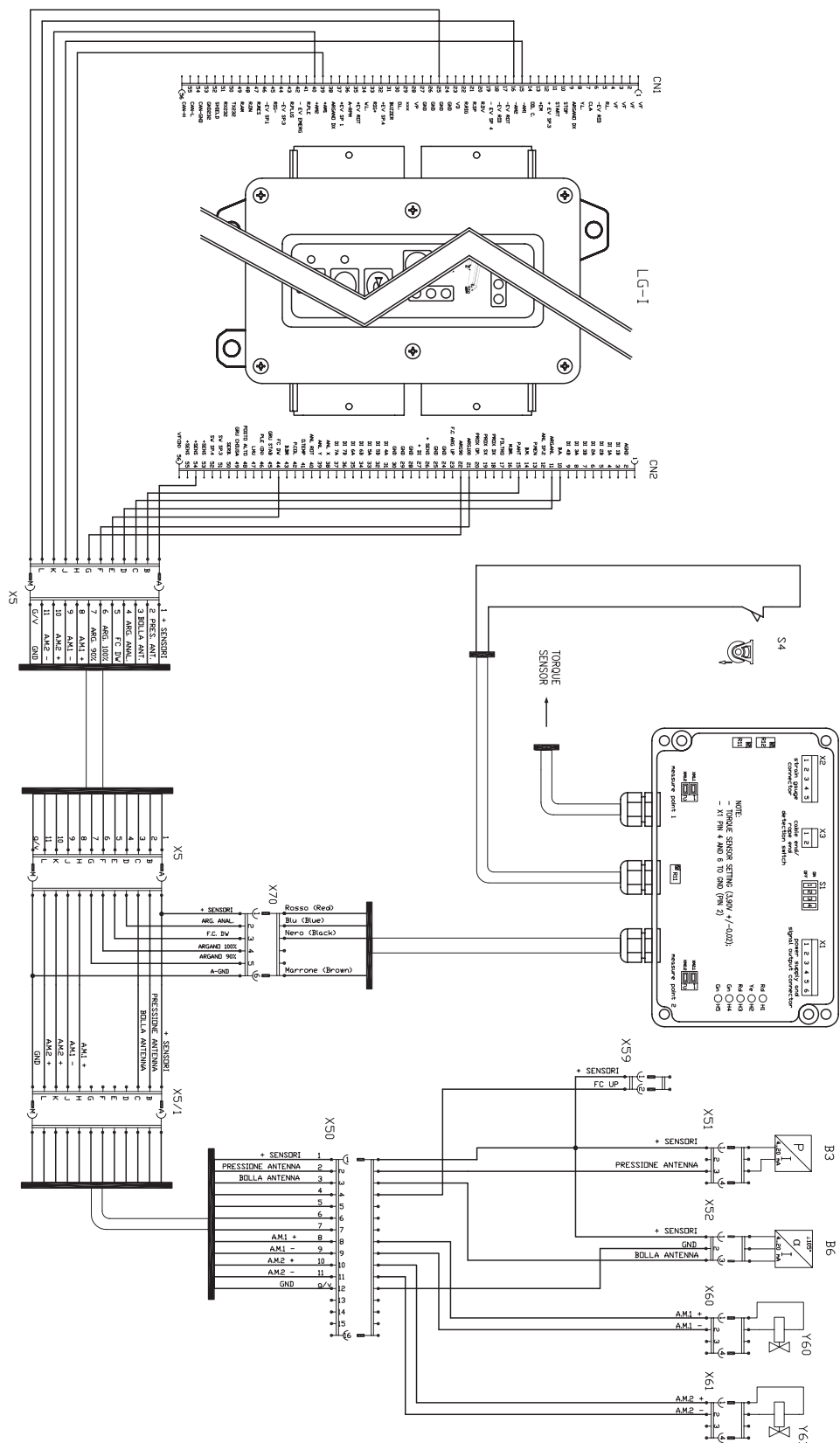
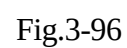


Fig.3-95



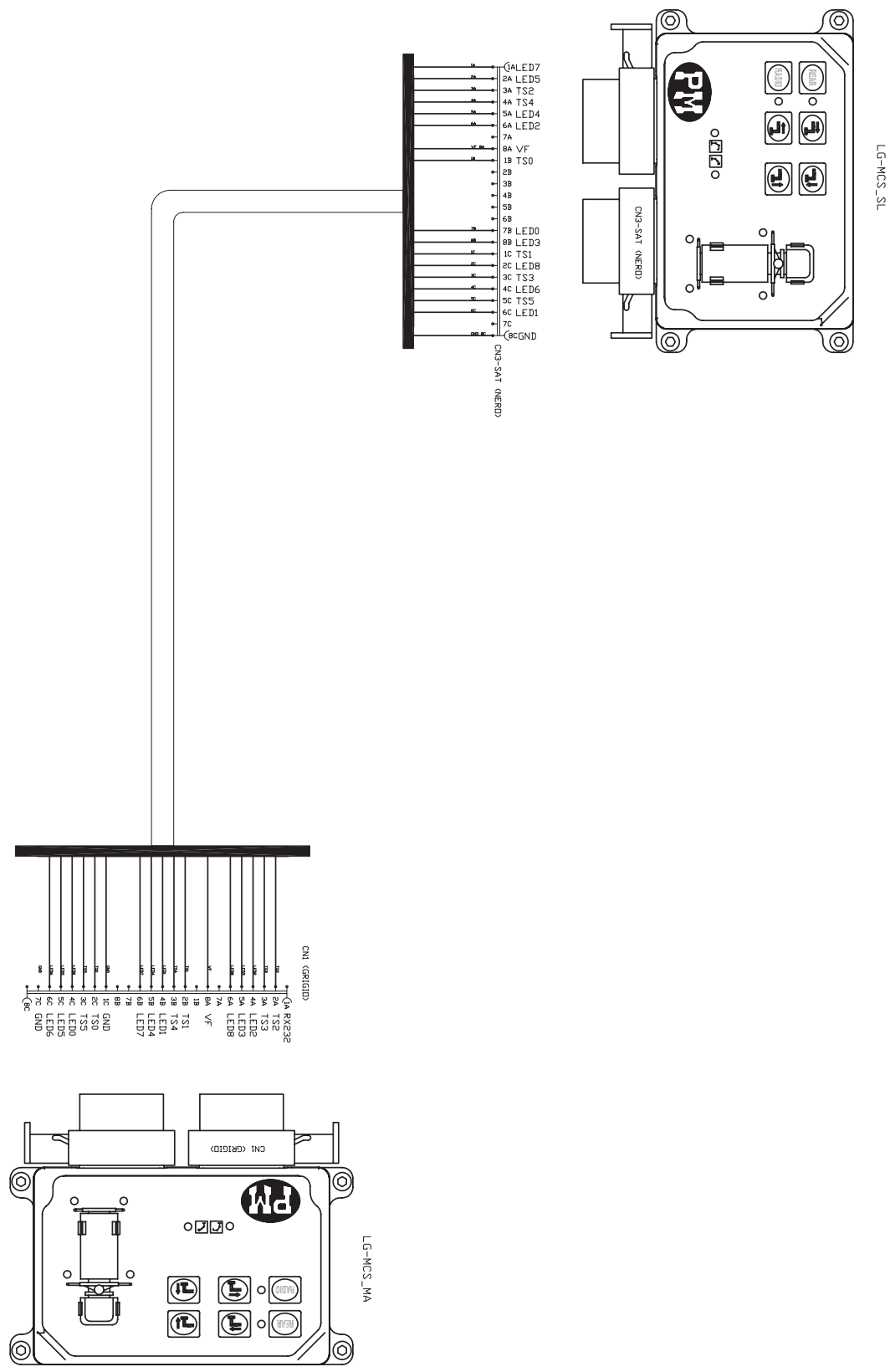


Fig.3-97

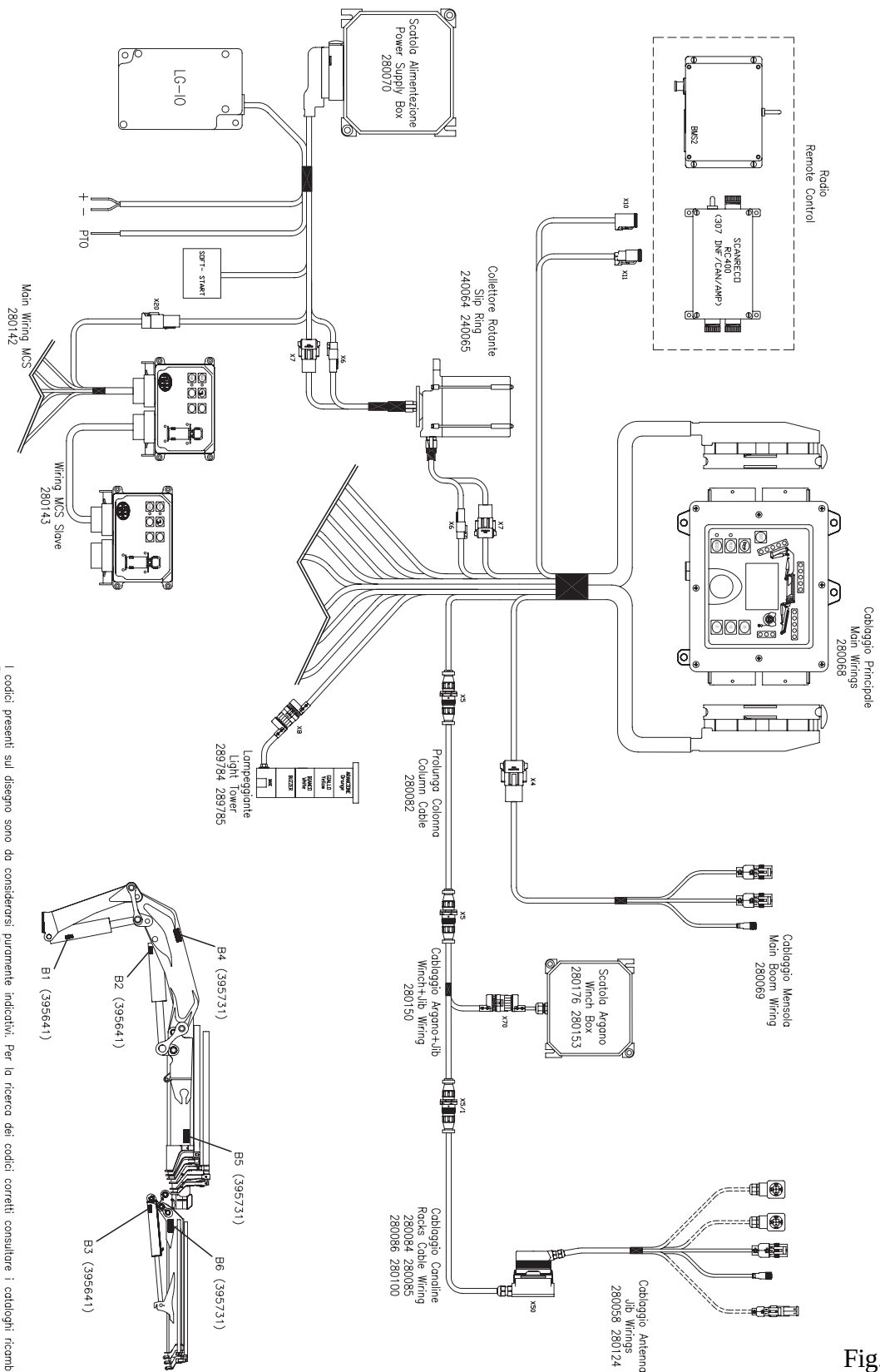


Fig.3-98

| LEGENDA/LEGEND |                                 |                                       |  |          |                                   |                                |
|----------------|---------------------------------|---------------------------------------|--|----------|-----------------------------------|--------------------------------|
| NOME/NAME      |                                 | FUNZIONE                              |  | FUNCTION |                                   |                                |
| CN1            | CONNETTORE SINISTRO CENTRALINA  | RIGHT CONNECTOR CENTRAL UNIT          |  | D1       | P.V.D.I. 1° ELEMENTO              | P.V.D.I. ELEMENT 1             |
| CN2            | CONNETTORE DESTRO CENTRALINA    | LEFT CONNECTOR CENTRAL UNIT           |  | D2       | P.V.D.I. 2° ELEMENTO              | P.V.D.I. ELEMENT 2             |
| LG-I           | CENTRALINA POWER TRONIC         | POWER TRONIC MAIN UNIT                |  | D3       | P.V.D.I. 3° ELEMENTO              | P.V.D.I. ELEMENT 3             |
| LG-ID          | CENTRALINA INPUT OUTPUT         | INPUT OUTPUT UNIT                     |  | D4       | P.V.D.I. 4° ELEMENTO              | P.V.D.I. ELEMENT 4             |
| LG-MCS_MA      | MCS MASTER                      | MCS MASTER                            |  | D5       | P.V.D.I. 5° ELEMENTO              | P.V.D.I. ELEMENT 5             |
| LG-MCS_SL      | MCS SLAVE                       | MCS SLAVE                             |  | D6       | P.V.D.I. 6° ELEMENTO              | P.V.D.I. ELEMENT 6             |
| LG-SAT         | SATELLITE DOPPIO COMANDO        | SATELLITE OPPOSITE SIDE COMMAND       |  | D7       | P.V.D.I. 7° ELEMENTO              | P.V.D.I. ELEMENT 7             |
| LMU            | LMU                             | LMU                                   |  |          |                                   |                                |
|                |                                 |                                       |  | Y0       | ELETTROVALVOLA DI EMERGENZA (EV9) | EMERGENCY VALVE (EV9)          |
| B1             | SENSORE PRESSIONE CILINDRO (P1) | COLUMN CYLINDER PRESSURE TRANSD. (P1) |  | Y10      | ELETTROVALVOLA RIGENERATIVA       | REGENERATIVE VALVE             |
| B2             | SENSORE PRESSIONE MENSOLA (P2)  | MAIN BDM PRESSURE TRANSDUCER (P2)     |  | Y60      | AM1                               | MA1                            |
| B3             | SENSORE PRESSIONE ANTENNA (P3)  | JIB PRESSURE TRANSDUCER (P3)          |  | Y61      | AM2                               | MA2                            |
| B4             | SENSORE ANGOLO MENSOLA (A1)     | MAIN ANGLE SENSOR (A1)                |  |          |                                   |                                |
| B5             | SENSORE ANGOLO BRACCI (A2)      | BDM PACK ANGLE SENSOR (A2)            |  | YR       | ELETTROVALVOLA RICHIAMO OLIO      | HYDRAULIC POWER SOLENOID VALVE |
| B6             | SENSORE ANGOLO ANTENNA (A3)     | JIB ANGLE SENSOR (A3)                 |  | YA       | ELETTROVALVOLA DIR. A             | OUT SOLENOID VALVE             |
| B7             | SENSORE TEMPERATURA OLIO        | OIL TEMPERATURE SENSOR                |  | YB       | ELETTROVALVOLA DIR. B             | IN SOLENOID VALVE              |
|                |                                 |                                       |  | Y1       | ELETTROVALVOLA ELEMENTO 1         | SOLENOID VALVE 1               |
| S0             | FILTRO                          | FILTER                                |  | Y2       | ELETTROVALVOLA ELEMENTO 2         | SOLENOID VALVE 2               |
| S1             | MICRO ROTAZIONE DX              | SLEEPING RIGHT MICROSWITCH            |  | Y3       | ELETTROVALVOLA ELEMENTO 3         | SOLENOID VALVE 3               |
| S2             | MICRO ROTAZIONE SX              | SLEEPING LEFT MICROSWITCH             |  | Y4       | ELETTROVALVOLA ELEMENTO 4         | SOLENOID VALVE 4               |
| S3             | MICRO FINECORSA SALLTA ARGANO   | WINCH END STROKE-UP MICROSWITCH       |  | Y5       | ELETTROVALVOLA ELEMENTO 5         | SOLENOID VALVE 5               |
| S4             | MICRO FINECORSA DISCESA ARGANO  | WINCH END STROKE DOWN MICROSWITCH     |  | Y6       | ELETTROVALVOLA ELEMENTO 6         | SOLENOID VALVE 6               |
| S5             | MICRO PACCO BRACCI RIENTRATO    | BDM PACK FOLDED MICROSWITCH           |  | Y7       | ELETTROVALVOLA ELEMENTO 7         | SOLENOID VALVE 7               |
|                |                                 |                                       |  | Y8       | ELETTROVALVOLA ELEMENTO 8         | SOLENOID VALVE 8               |
| M              | VENTOLA SCAMBIATORE             | OIL COOLER FAN                        |  |          |                                   |                                |
|                |                                 |                                       |  |          |                                   |                                |
| H1             | CICALINO                        | BUZZER                                |  |          |                                   |                                |
| H2             | LUCE BIANCA                     | WHITE LIGHT                           |  |          |                                   |                                |
| H3             | LUCE GIALLA                     | YELLOW LIGHT                          |  |          |                                   |                                |
| H4             | LUCE ARANCIO                    | ORANGE LIGHT                          |  |          |                                   |                                |

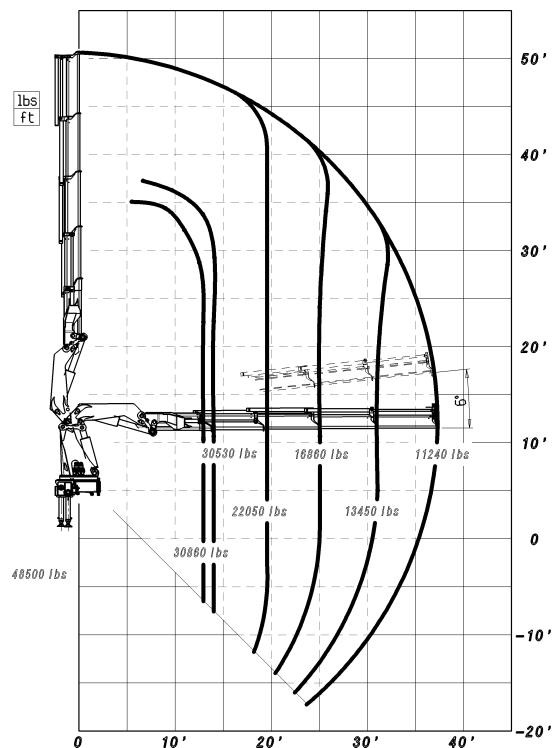
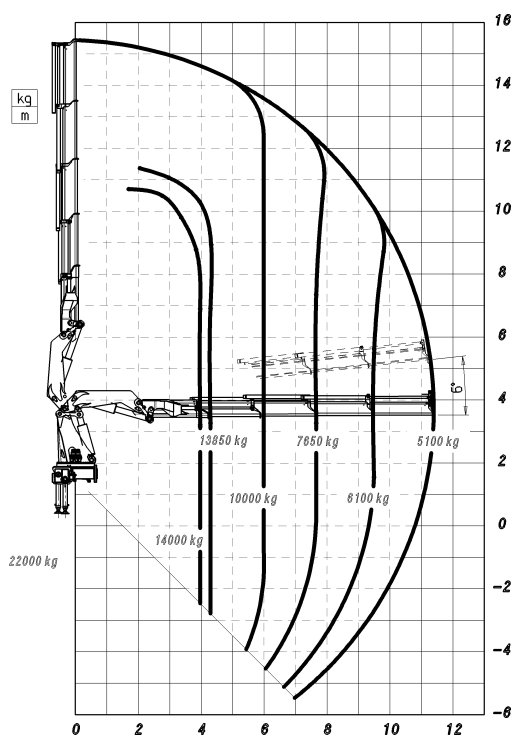
Fig.3-99

#### 4: DIAGRAMMI PORTATE

#### 4: LOAD CHARTS

65024 SP PT

lbs  
ft



kg  
m

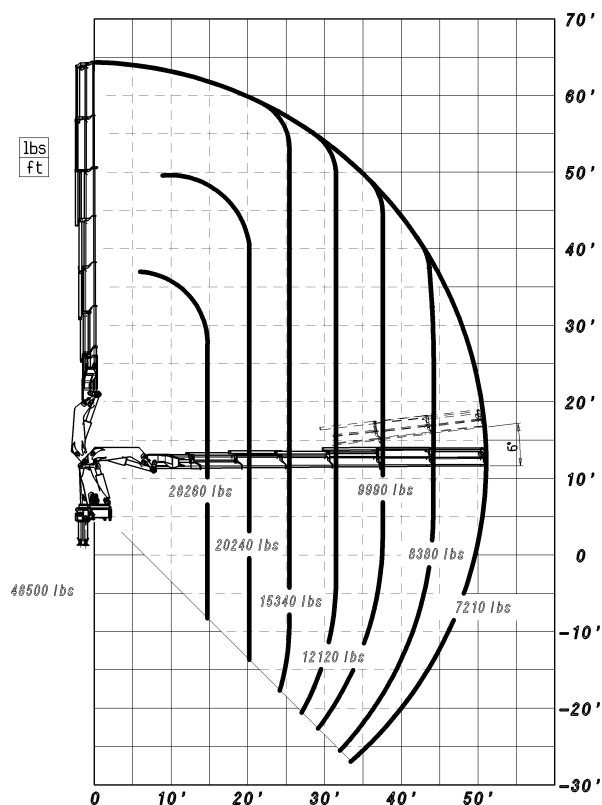
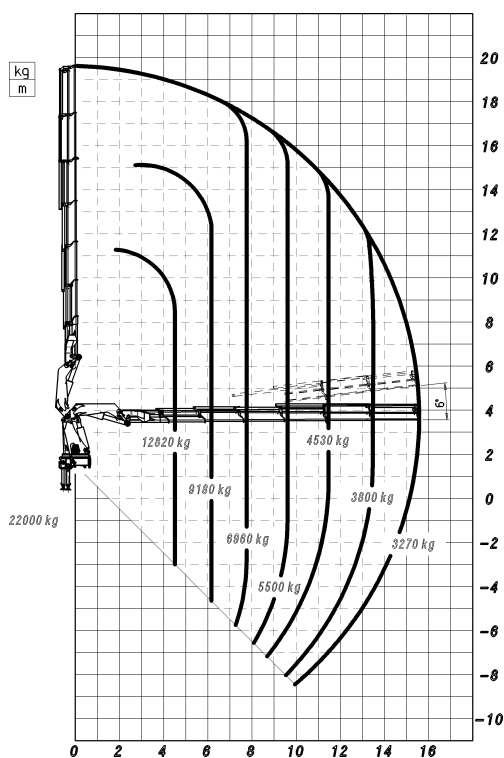
- \* PORTATA MAX NOMINALE AL GANCIO FISSO  
MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

65026 SP PT

lbs  
ft



kg  
m

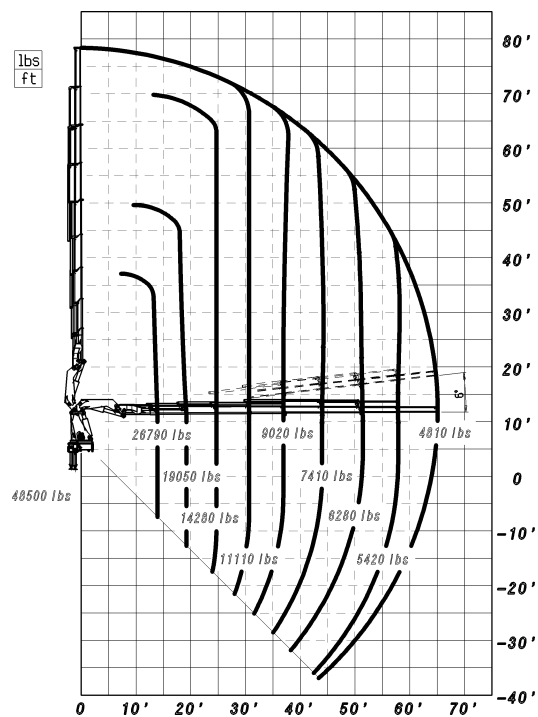
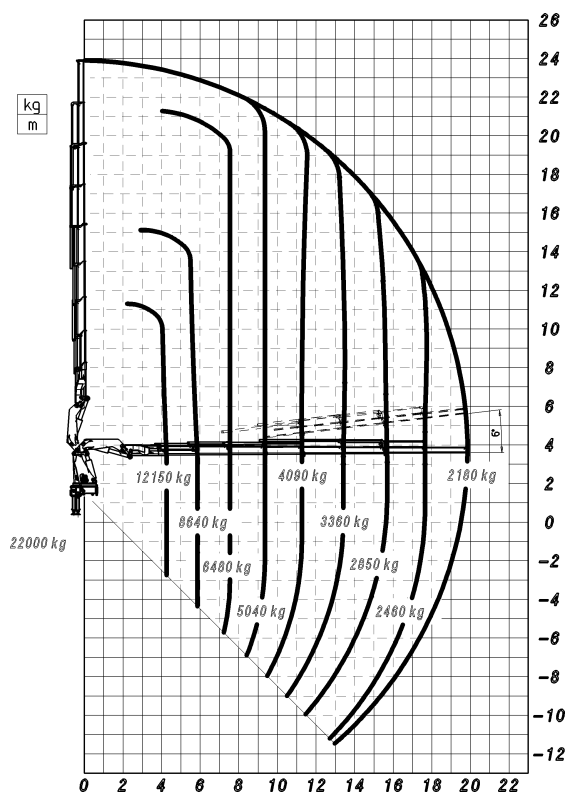
- \* PORTATA MAX NOMINALE AL GANCIO FISSO  
MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

65028 S P T

lbs  
ft



kg  
m

\* PORTATA MAX NOMINALE AL GANCIO FISSO

MAX CAPACITY AT FIXED HOOK

\*\* PORTATA MAX AL GANCIO MOBILE

MAX CAPACITY AT MOBILE HOOK

\*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE

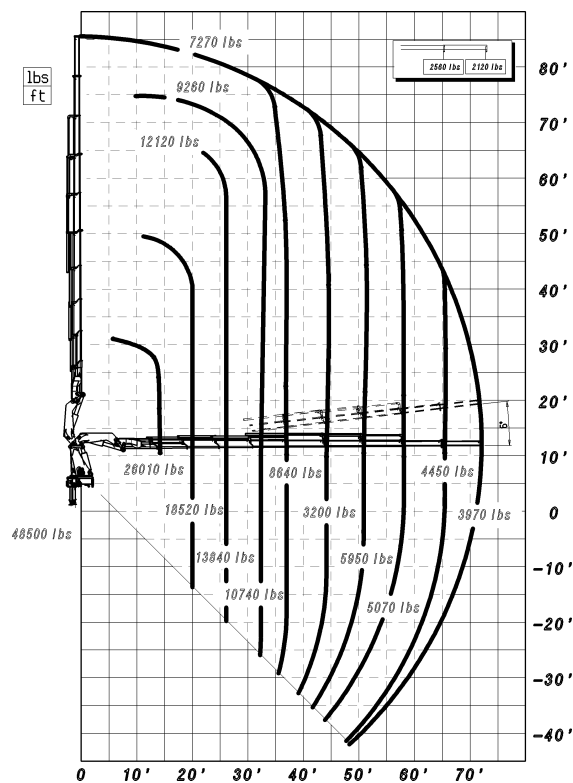
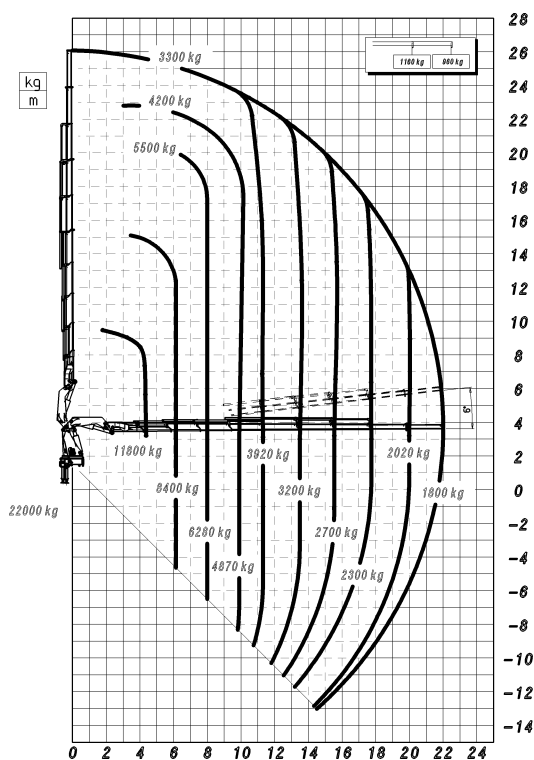
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

**65029 SP PT**

**lbs**  
**ft**



**kg**

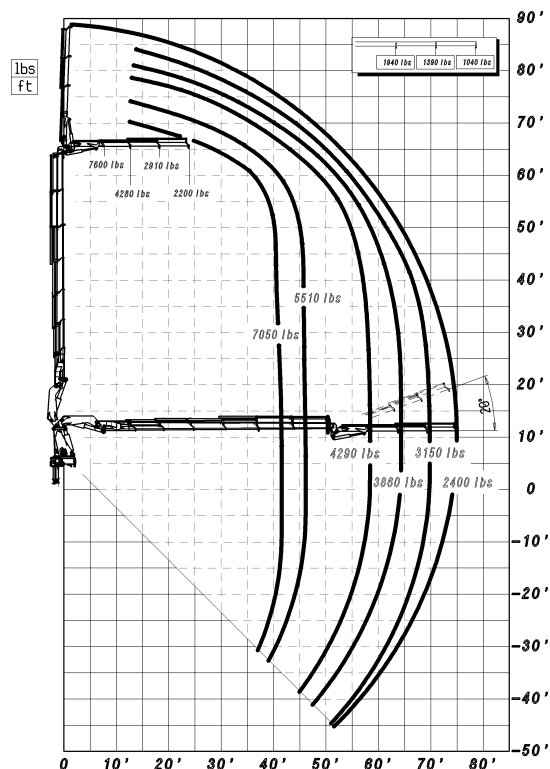
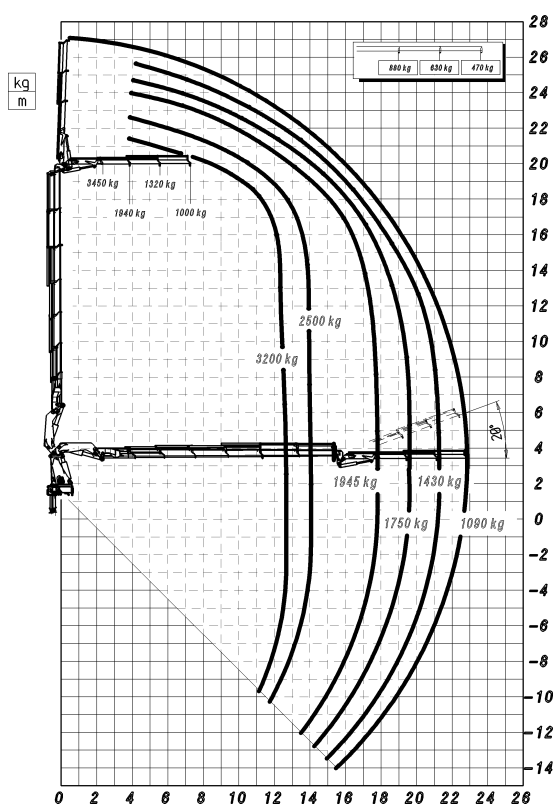
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MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

**65026+J903**  
**SP PT**

$\frac{\text{lbs}}{\text{ft}}$



$\frac{\text{kg}}{\text{m}}$

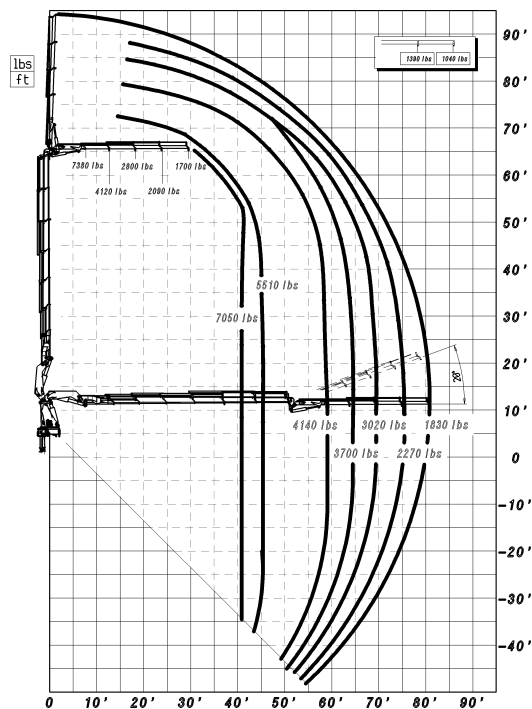
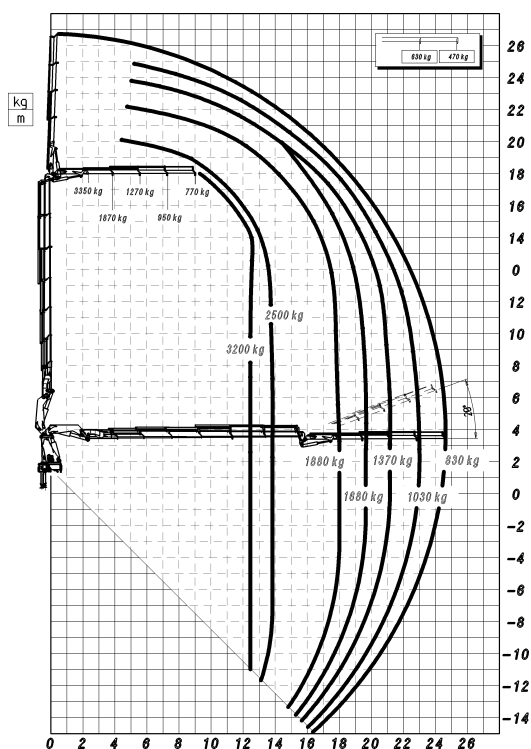
- \* PORTATA MAX NOMINALE AL GANCIO FISSO  
MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

**65026 + J904**  
**SP PT**

$\frac{\text{lbs}}{\text{ft}}$



$\frac{\text{kg}}{\text{m}}$

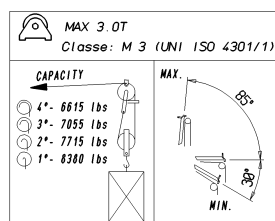
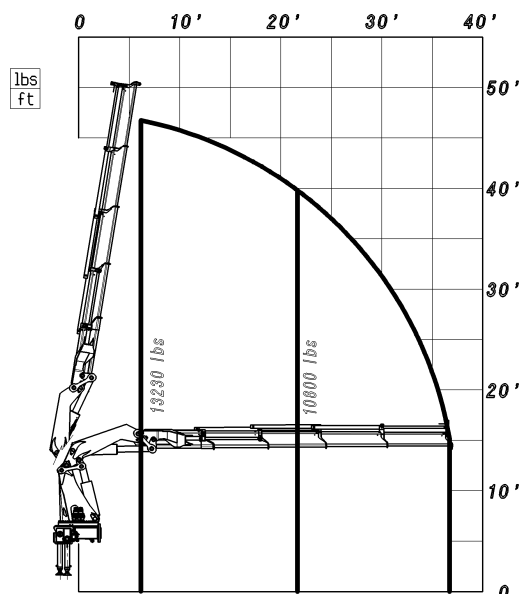
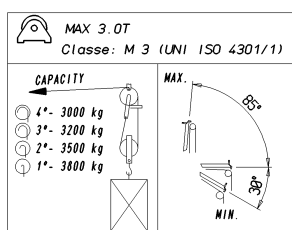
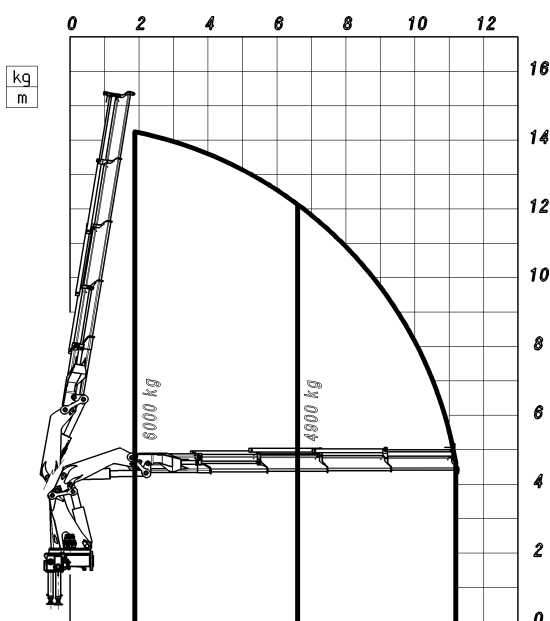
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MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

# 65024 SP PT + Verr.

lbs  
ft



kg  
m

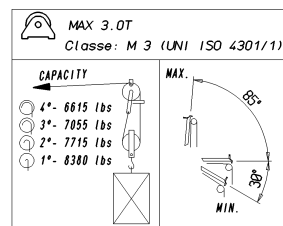
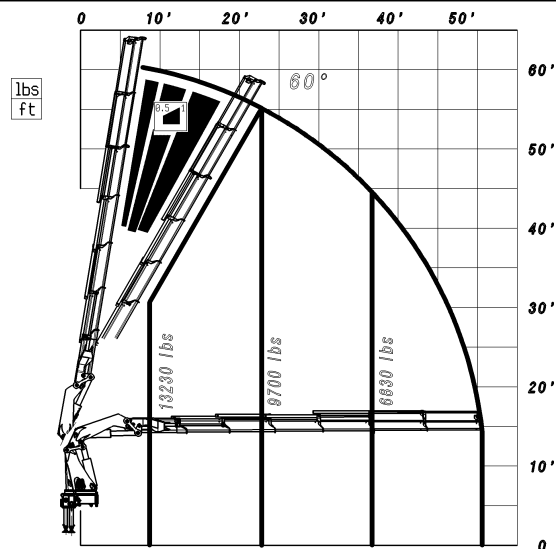
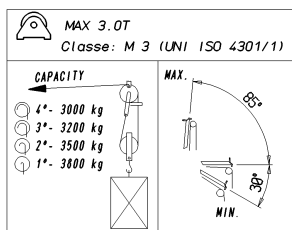
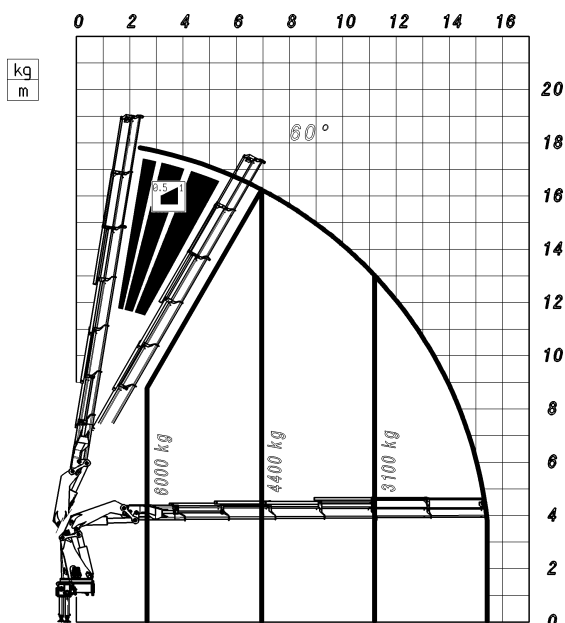
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MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

# **65026 SP PT** **+ Verr.**

lbs  
ft



kg  
m

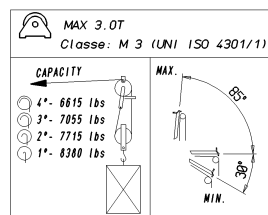
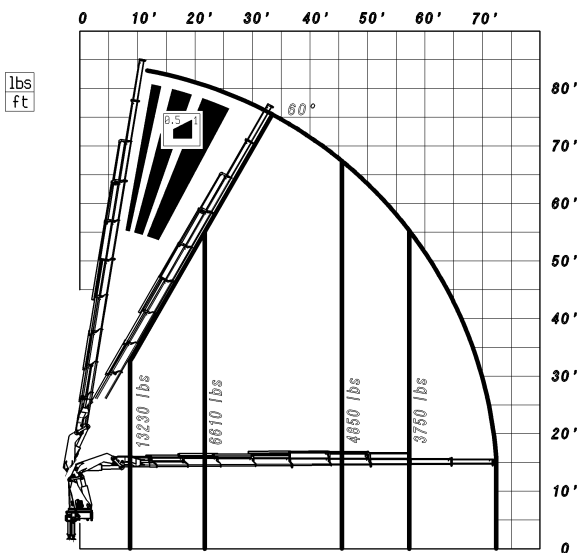
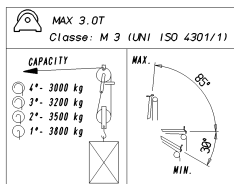
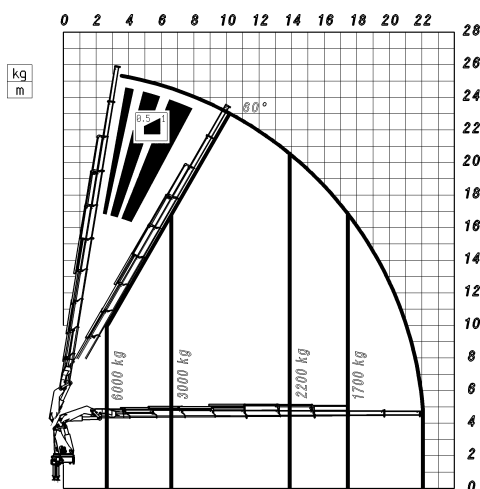
- \* PORTATA MAX NOMINALE AL GANCIO FISSO  
MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

# 65028 SP PT + Verr.

lbs  
ft



kg  
m

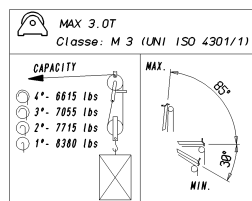
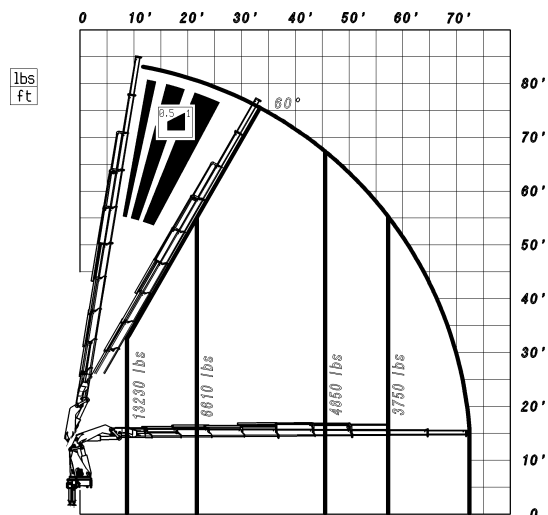
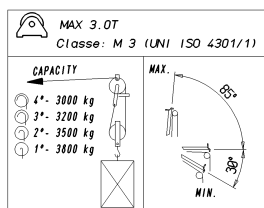
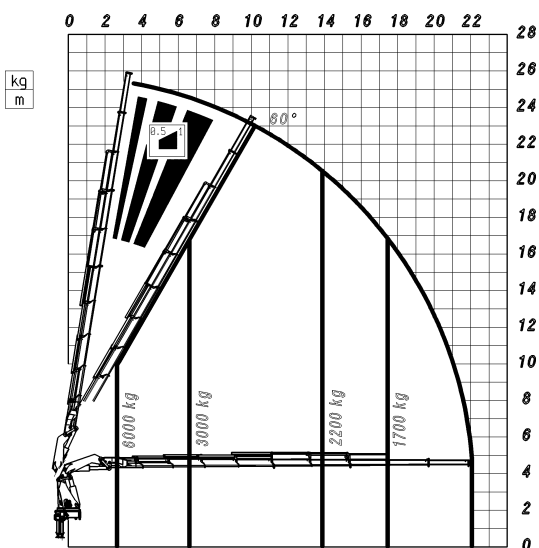
- \* PORTATA MAX NOMINALE AL GANCIO FISSO  
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MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

**65029 SP PT**  
**+ Verr.**

**lbs**  
**ft**



**kg**  
**m**

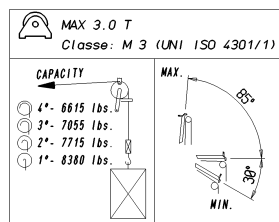
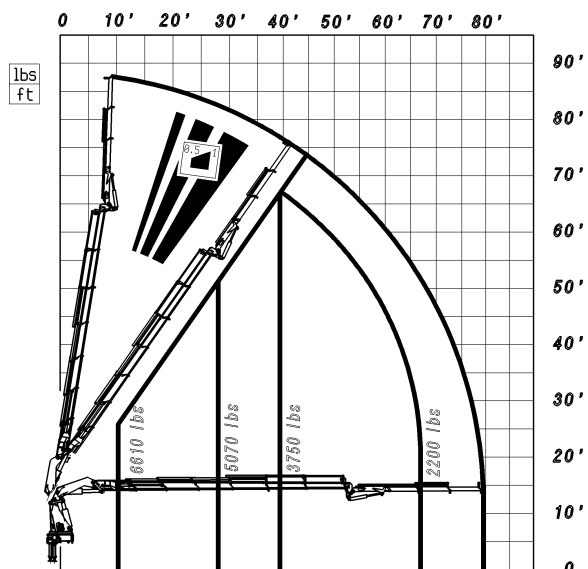
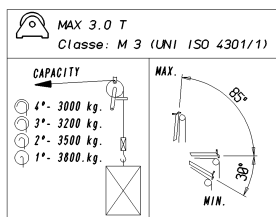
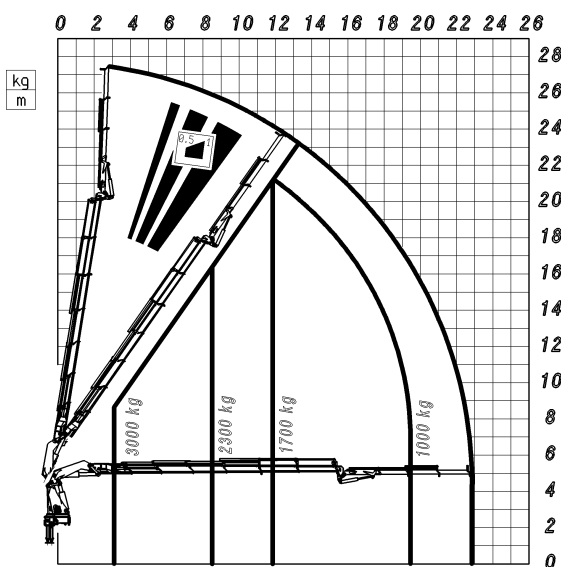
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MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

**65026 SP PT**  
**+ J903+Verr.**

lbs  
ft



kg  
m

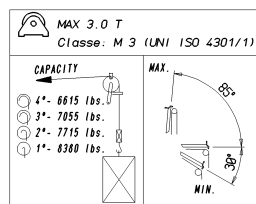
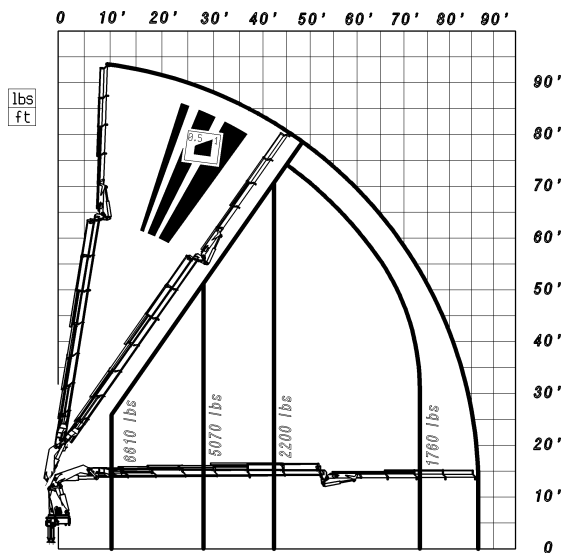
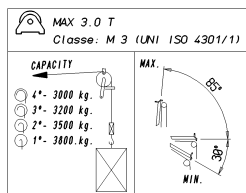
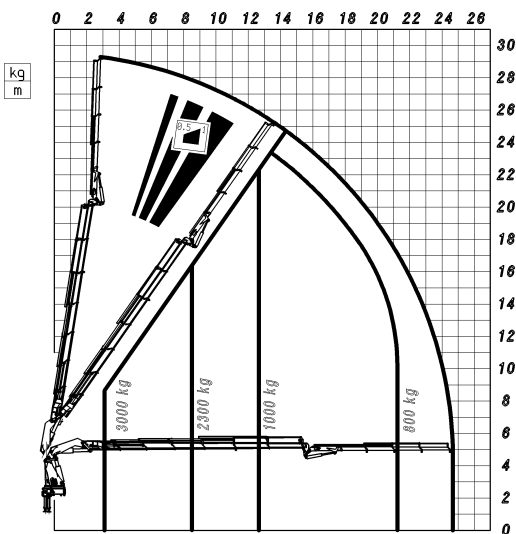
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MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°

NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

**65026 SP PT  
+ J904+Verr.**

$\frac{\text{lbs}}{\text{ft}}$



$\frac{\text{kg}}{\text{m}}$

- \* PORTATA MAX NOMINALE AL GANCIO FISSO  
MAX CAPACITY AT FIXED HOOK
- \*\* PORTATA MAX AL GANCIO MOBILE  
MAX CAPACITY AT MOBILE HOOK
- \*\*\* PORTATA MASSIMA PASSANTE PER L'ORIZZONTALE  
MAX CAPACITY FROM HORIZONTAL TO VERTICAL

NB: LE PRESTAZIONI INDICATE SI OTTENGONO CON BRACCIO PRINCIPALE A 15°  
NOTE: THE STATED PERFORMANCES CAN BE OBTAINED WITH 15° INCLINATED MAIN BOOM.

## 5: NOTIZIE TECNICHE

Qui di seguito elenchiamo, con breve commento tecnico, le nuove soluzioni e le migliorie che abbiamo introdotto sulle gru della serie 65 P PT.

### **SERBATOIO OLIO IDRAULICO:**

capacità 350 l

peso del serbatoio pieno di olio 400 Kg.

## 5: TECHNICAL INFORMATION

*We inform you about new solutions and improvements adopted on crane serie 65 P PT.*

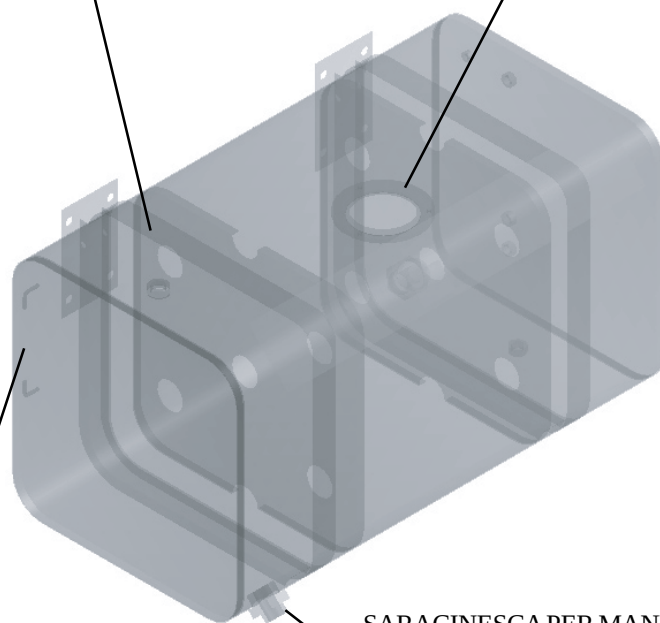
### **HYDRAULIC OIL TANK:**

*capacity 350 l*

*weight of the tank when full of oil: 400 kg (880lbs)*

CARICA/RABBOCCO OLIO  
OIL FILLING/TOPPING UP

FLANGIA PER FILTRO  
FLANGE FOR FILTER



SARACINESCA PER MANDATA POMPA  
GATE-VALVE FOR DELIVERY PUMP

LIVELLO OLIO  
OIL LEVEL

Fig. 5.1

**SERBATOIO OLIO IDRAULICO:**

capacità 305 l

peso del serbatoio pieno di olio 410 Kg.

**HYDRAULIC OIL TANK:**

capacity 305 l

weight of the tank when full of oil: 410 kg (905lbs)

CARICA/RABBOCCO OLIO  
OIL FILLING/TOPPING UP

FLANGIA PER FILTRO  
FLANGE FOR FILTER

LIVELLO OLIO  
OIL LEVEL

SARACINESCA PER MANDATA POMPA  
GATE-VALVE FOR DELIVERY PUMP

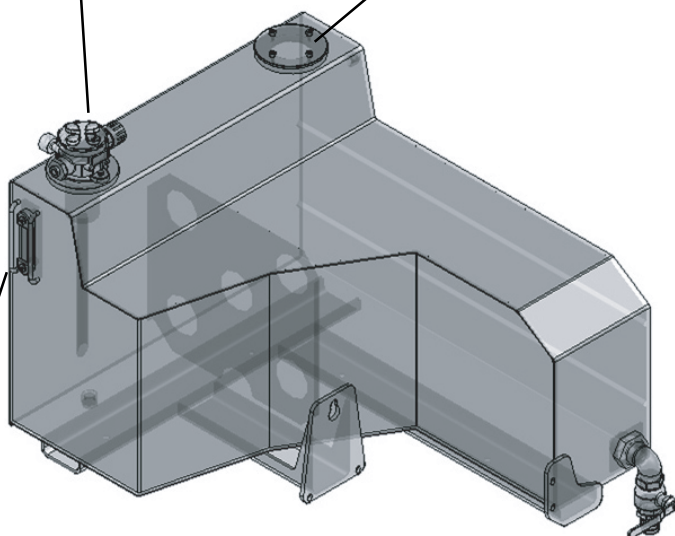
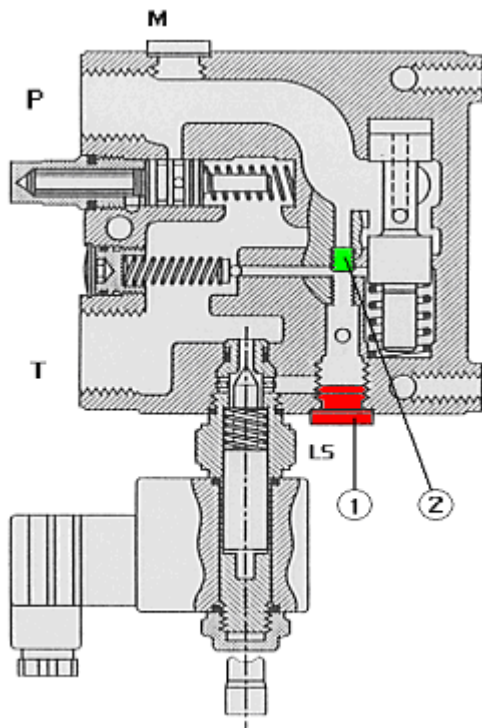


Fig. 5.2

## TRASFORMAZIONE POMPA DA PORTATA VARIABILE A PORTATA FISSA.

**GRU STANDARD:** predisposta per pompa a cilindrata variabile



**PORTATA FISSA  
FIXED DELIVERY PUMP**

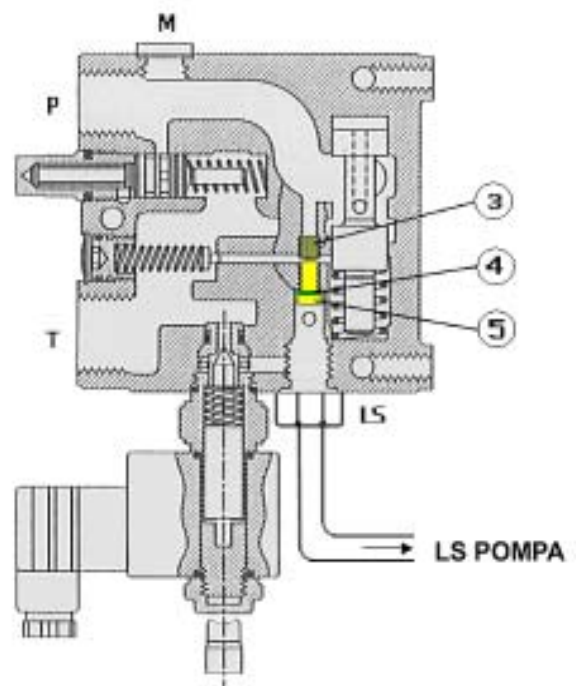
**Fig.5.3**

**Trasformazione del sistema di alimentazione del distributore DANFOSS da pompa a portata variabile a portata a fissa.**

- Rimuovere la tubazione di pilotaggio del segnale LS (Fig.5.4).
- Svitare il tappo 5, smontare la guarnizione 4 ed il grano 3 (Fig.5.4).
- Inserire e avvitare il grano 2, part. 2 Fig.5.3.
- Inserire nella bocca lasciata libera dalla tubazione di pilotaggio il tappo 1 (Fig.5.3).
- Regolare la pressione valvola di massima sul distributore a 310bar.
- Regolare la pressione massima della pompa a 290bar.

## MODIFICATION OF THE PUMP FROM THE VARIABLE DELIVERY TO THE FIXED DELIVERY TYPE.

**STANDARD CRANE:** to be fitted with a variable displacement pump



**PORTATA VARIABILE  
VARIABLE DELIVERY PUMP**

**Fig.5.4**

**Transformation of the supply system of the DANFOSS control valve block, which now features a fixed delivery pump instead of a variable delivery pump.**

- Remove the control piping of the LS signal (Fig. 5.4).
- Unscrew cap 5, remove gasket 4 and dowel 3 (Fig. 5.4).
- Insert and tighten dowel 2, part 2, Fig. 5.3.
- Insert cap 1 (Fig.5.3) in the opening in which the control piping was previously fitted
- Adjust the pressure relief valve on the control valve block to 310 bar.
- Adjust maximum pump pressure to 290 bar.

**TUBI IN GOMMA DI COLLEGAMENTO:** DIN 24° + OR

**FILTRO DELL'OLIO IDRAULICO:** Filtrazione assoluta di 12 micron.

**PIEDI STABILIZZATORI:** rotazione di 180°

**RADIOCOMANDO:**

- Scanreco
- Hetronic

**TARATURE:** tutte le tarature vengono gestite dalla centralina elettronica.

#### **UNITÀ DI CONTROLLO FUNZIONALE**

*Integra:*

- il limitatore di carico della gru;
- il limitatore di carico della prolunga articolata;
- il limitatore di carico del verricello;
- il limitatore di rotazione.

*Controlla:*

- le pressioni in spinta del martinetto principale e secondario;
- la temperatura dell'olio;
- il corretto funzionamento dei dispositivi di sicurezza;
- segnala all'operatore lo stato funzionale della macchina e le anomalie di funzionamento.

**RUBBER CONNECTION HOSES:** DIN 24° + O-RING

**HYDRAULIC OIL FILTER:** absolute filtering of 12 micron.

**OUTRIGGER FEET:** 180° rotation

**RADIO CONTROL:**

- Scanreco
- Hetronic

**CALIBRATION:** calibration is controlled by the electronic control unit.

#### **FUNCTIONAL CONTROL UNIT**

*This includes:*

- the crane's load limiting device;
- the articulated extension's load limiting device;
- the winch's load limiting device;
- the rotation limiting device.

*It controls:*

- the thrusting pressure of the main and secondary jack;
- the oil temperature;
- the safety devices' operation;
- it advises the operator of the machine's operation status and any malfunctions.

## **6: ACCESSORI**

### **6.1 PROLUNGHE MANUALI**

#### **-PM 65029 SP PT -**

2 prolunghe manuali, da applicare all'ultimo braccio della macchina, per portare lo sbraccio orizzontale a mt. 25.70 dall'asse colonna di rotazione.

Tutte le prolunghe sono dotate di attacco gancio (fisso o mobile), di fine corsa a massimo sfilamento e quando non sono utilizzate possono essere ricoverate all'interno dell'ultimo braccio della gru.

## **6 : ACCESSORIES**

### **6.1 MANUAL EXTENSIONS**

#### **-PM 65029 SP PT -**

*2 manual extensions to be fastened to last hydraulic boom of the crane are available for extending the horizontal reach of the boom at 25.70 m (84'4") from the slewing column axis.*

*All the manual extensions are supplied with a hooking device and when not used, they can be folded into the last hydraulic boom of the crane.*

## 6.2 VERRICELLO (Fig. 6.1)

Verricello idraulico tipo TC 3 con capacità di tiro massimo sul tratto di fune (al 4° strato) di 3000 daN posizionato sotto il 1° braccio della gru (PM 65 SP PT).

### Caratteristiche:

- Tiro max sul tratto di fune (4° strato): 3000daN
- Peso proprio totale: 190 kg
- Tamburo liscio, diametro primitivo: 279mm
- Fune: diametro 14 mm / lunghezza: 65m
- Motore idraulico orbitale: cilindrata 41 cc
- Riduttore epicicloidale: rapporto di riduzione 39:1
- Freno a dischi multipli con molle di richiamo in chiusura e comando oleodinamico in apertura.
- Valvola idropilotata contro il trascinarsi del motore e di blocco in caso di rottura delle tubazioni.
- Velocità (con fune a tiro diretto) al 4° strato: 59 m/min con portata di 108 l/min

## 6.2 WINCH (Fig. 6.1)

Hydraulic winch with maximum pulling on cable section (4th layer) of 3000 daN (6745 lbs) placed under the first boom of the crane (PM 65 SP PT).

### Characteristics :

- Maximum draw capacity on cable section (at 4th layer): 3000 daN(6745 lbs)
- Total weight(without rope): 190 kg (420 lbs)
- Smooth drum, original diam.: 279 mm (10")
- Cable diameter: 14 mm(35/64") ength: 65m(213'3")
- Orbital hydraulic motor with a 41 cc
- Epicycloidal reduction gear with reduction ratio 39:1
- Multiple disk brake with closing return spring and opening hydraulic control
- Hydropiloted lock valve to avoid motoring over and to block in case of breaking hoses
- Speed (with cable at direct pull) at 4th layer: 59 m/min with capacity of 108 l/min (193'/min with capacity of 23 US gals/min)

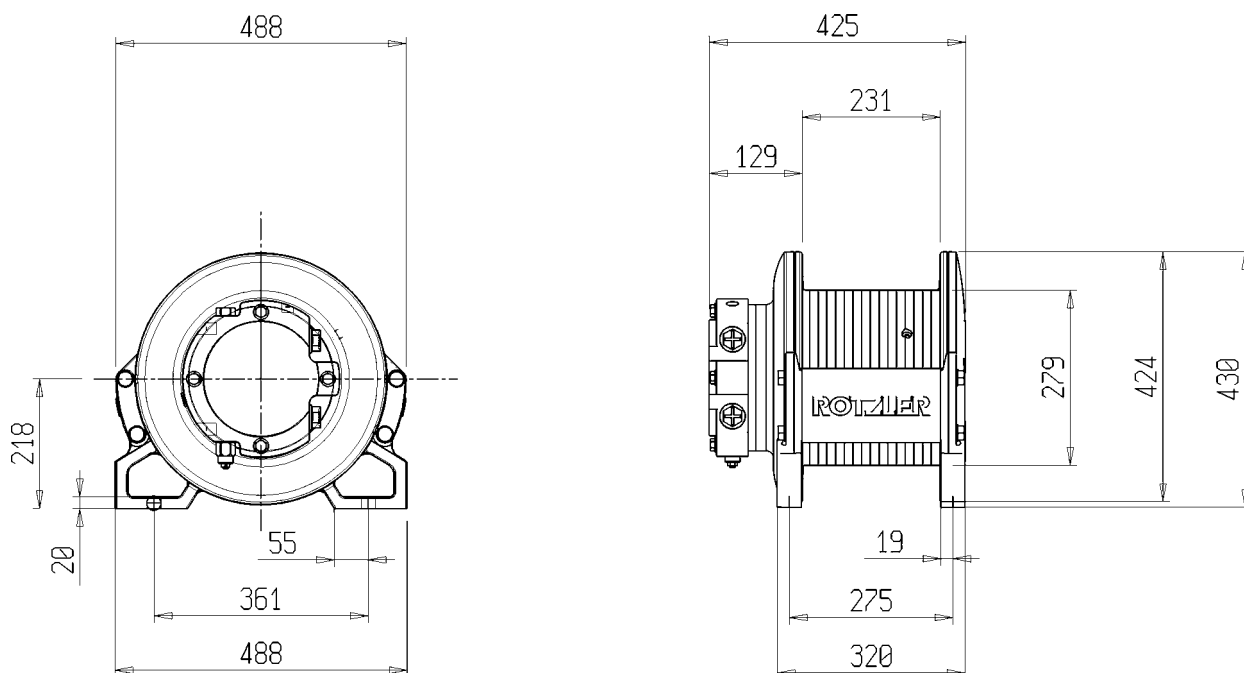


Fig.6-1

6.3 PM SERIE 65026 SP PT GRU CON  
ANTENNA J903/4 (Fig. 6.2)

6.3 PM SERIE 65026 SP PT CRANE  
WITH JIB J903/4 (Fig.6.2)

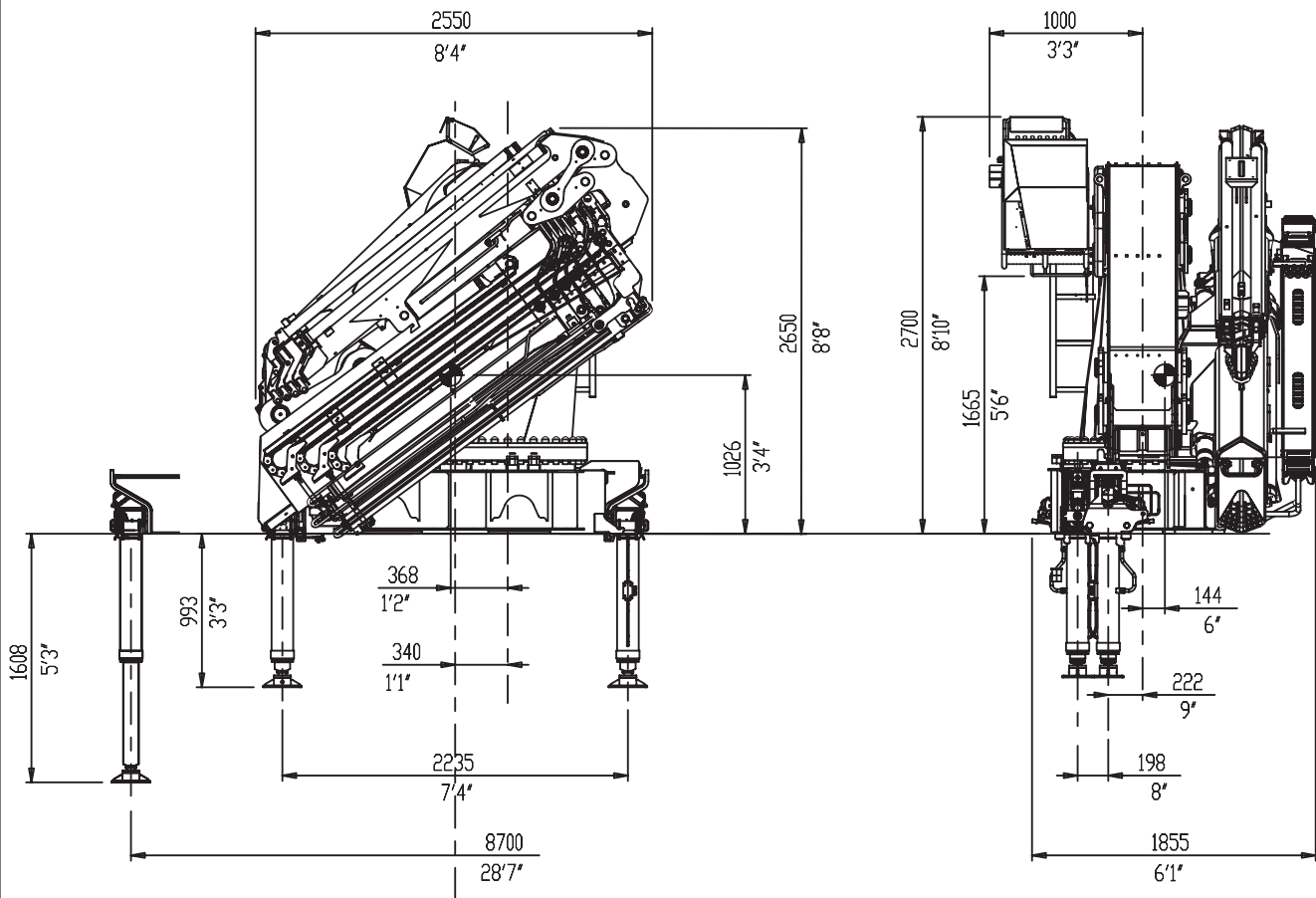


Fig.6-2

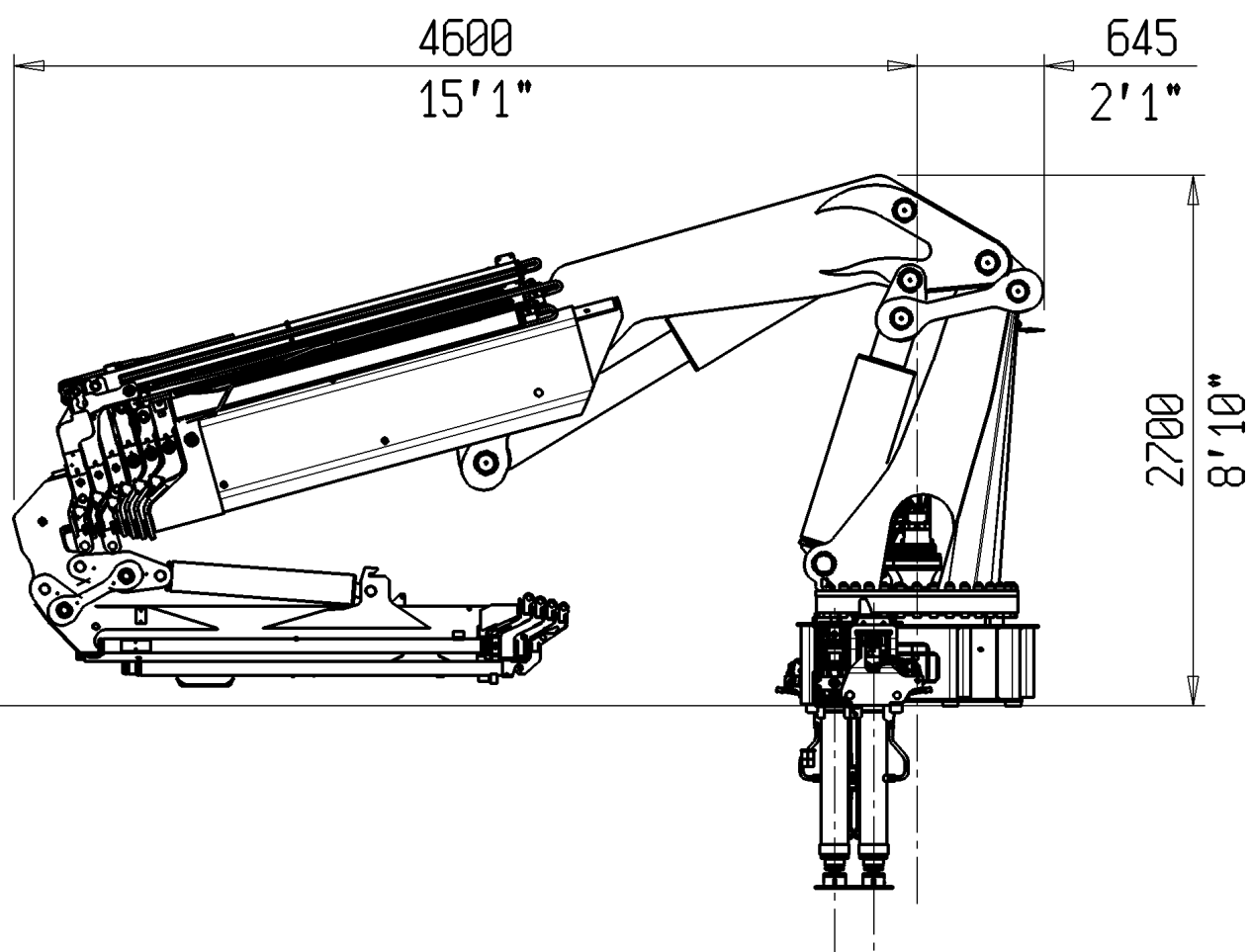


Fig.6-3