



**TEREX** | COMEDIL

# **CTT “City” Tower Electrical Equipment Location**

- 1** **CONFIGURATION OF THE SUPPLY CABLES RUNNING UP THE TOWER**
  - 1.1 CONFIGURATION SCHEME
  - 1.2 STANDARD SUPPLY CABLE
  - 1.3 SUPPLY CABLE EXTENSION
- 2** **POSITIONING THE SUPPLY CABLES RUNNING UP THE TOWER**
  - 2.1 CONNECTING THE SUPPLY CABLE TO THE SLIP RING
    - 2.1.1 Crane model CTT 121 - CTT 141 - CTT 161 - CTT 181 - CTT 181/A
    - 2.1.2 Crane model CTT 51 - CTT 61 - CTT 71 - CTT 91
  - 2.2 POSITIONING THE STANDARD SUPPLY CABLE
  - 2.3 POSITIONING THE SUPPLY CABLE EXTENSION

## **Chapter 4**

**C**



1

## CONFIGURATION OF THE SUPPLY CABLES RUNNING UP THE TOWER

### 1.1 CONFIGURATION SCHEME

The supply cable configuration, varying according to the number of tower sections installed, is shown in the scheme of picture 1.1.1.

**CONFIGURATION WITH SLIP RING**

**CONFIGURATION WITH SLIP RING AND NO. 1 CABLE EXTENSION**

**TOWER-SUPPLY CABLE CONFIGURATION TABLE**  
CRANE CTT 121-141-161-181-181/A

**Table 1.1.1**

| TOWER SECTIONS<br><b>xx.6</b> | STANDARD CABLE CODE<br>336101003 | STANDARD CABLE CODE<br>336101004 | CABLE EXTENSION CODE<br>336201010 |
|-------------------------------|----------------------------------|----------------------------------|-----------------------------------|
| [no.]                         | [no.]                            | [no.]                            | [no.]                             |
| 5                             | 1                                | -                                | -                                 |
| 7                             | -                                | 1                                | -                                 |
| 9                             | 1                                | -                                | 1                                 |
| 11                            | -                                | 1                                | 1                                 |
| 13                            | 1                                | -                                | 2                                 |
| 15                            | -                                | 1                                | 2                                 |

For special heights, contact Comedil Technical Dept.

**TOWER-SUPPLY CABLE CONFIGURATION TABLE**  
CRANE CTT 51-61-71-91

**Table 1.1.2**

| TOWERS SECTIONS<br><b>xx.6</b> | STANDARD CABLE CODE<br>336101005 | STANDARD CABLE CODE<br>336101006 | CABLE EXTENSION CODE<br>336201011 |
|--------------------------------|----------------------------------|----------------------------------|-----------------------------------|
| [no.]                          | [no.]                            | [no.]                            | [no.]                             |
| 5                              | 1                                | -                                | -                                 |
| 7                              | -                                | 1                                | -                                 |
| 9                              | 1                                | -                                | 1                                 |
| 11                             | -                                | 1                                | 1                                 |
| 13                             | 1                                | -                                | 2                                 |
| 15                             | -                                | 1                                | 2                                 |

For special heights, contact Comedil Technical Dept.

**Picture 1.1.1**

The supply cable configuration (standard cable and cable extension) considers a minimum number of 5 tower sections TS12 xx.6, TS16 xx.6 or TS21 xx.6 up to a maximum number of 15 ones (table 1.1.1 and 1.1.2).



When using tower sections TS12 xx.3, TS16 xx.3, TS21 xx.3 or TS12 xx.12, TS16 xx.12, TS21 xx.12, pay attention that their number, compared to that shown in the table, shall just be cut by half and doubled respectively.

#### Example of cable configuration

##### ■ Crane tower made of no. 9 tower sections TS 21 22.6

no.1 standard supply cable covering 5 tower sections

no.1 supply cable extension covering 4 tower sections



## IMPORTANT NOTE

Should the crane be equipped with tower sections other than TS (6 m / 20 ft), maybe H20 type, the configuration of the supply cables running up the tower shall still base on the 6 m (20 ft) standard tower section considered in the tables 1.1.1 and 1.1.2.

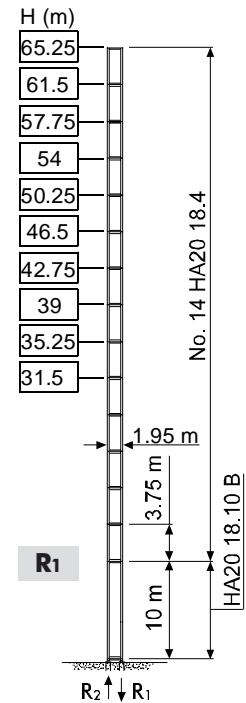
### Example:

CTT 161-8 H20

Hook height 65.25 m (214 ft) made of:

no. 1 tower section HA20 18.10 B of 10 m (33 ft)

no. 14 tower sections HA20 18.4 of 3.75 m (12 ft)



### Calculation:

$$1 \times 10 \text{ m} + 14 \times 3.75 \text{ m} = 62.5 \text{ m} = 10.42 \rightarrow \mathbf{11} \text{ (rounding up to the heighest figure)}$$

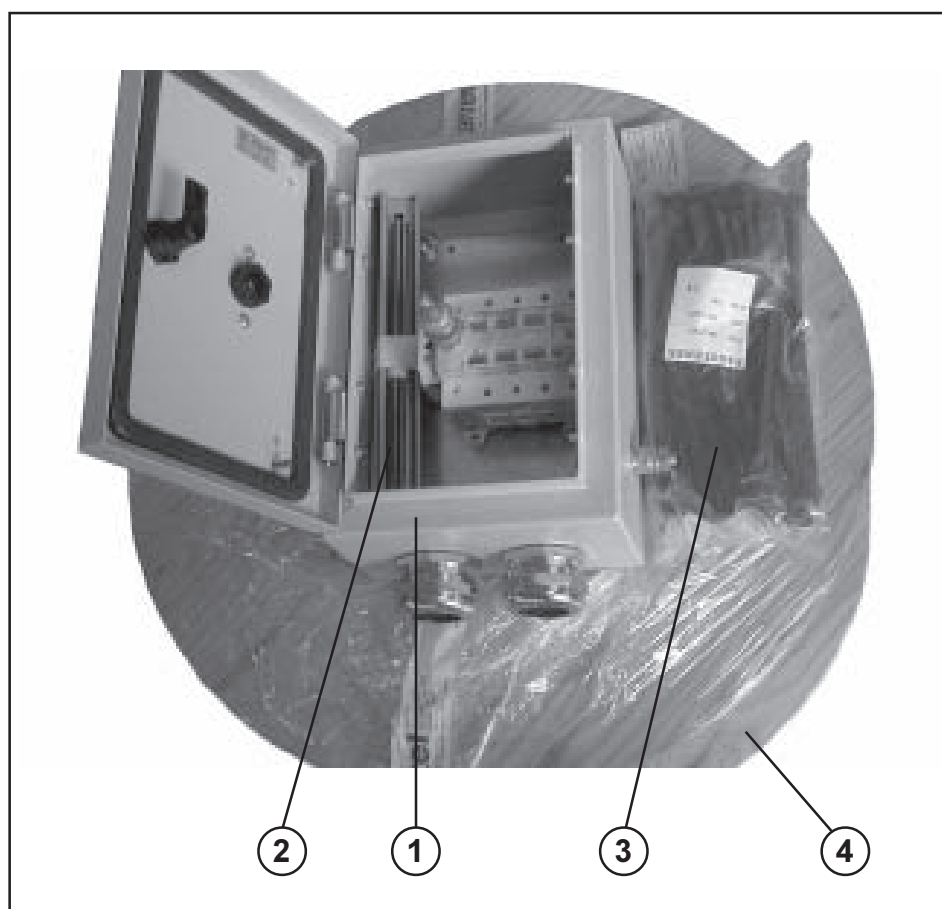
6

## 1.2 STANDARD SUPPLY CABLE

The standard supply cable kit (picture 1.2.1) includes cable (4) of proper cross-sectional area and length (covering a 5-to-7 section tower height and identified by different codes, depending on the crane height and model considered - see table 1.2.1); electrical box with supply disconnecting device (1); electrical box assembly kit (2) and cable ties (3), both located inside the electrical box.

|  |                     |                                  |   |
|--|---------------------|----------------------------------|---|
| CRANE MODEL<br>CTT 121-141-161-181-181/A | 5 TOWER<br>SECTIONS | STANDARD CABLE<br>CODE 336101003 | W040 TYPE H07RN-F 4G25 L=39 m<br><i>W040 TYPE H07RN-F 4G25 L=128 ft</i> |
| CRANE MODEL<br>CTT 121-141-161-181-181/A | 7 TOWER<br>SECTIONS | STANDARD CABLE<br>CODE 336101004 | W040 TYPE H07RN-F 4G25 L=51 m<br><i>W040 TYPE H07RN-F 4G25 L=167 ft</i> |
| CRANE MODEL<br>CTT 51-61-71-91           | 5 TOWER<br>SECTIONS | STANDARD CABLE<br>CODE 336101005 | W040 TYPE H07RN-F 4G16 L=39 m<br><i>W040 TYPE H07RN-F 4G16 L=128 ft</i> |
| CRANE MODEL<br>CTT 51-61-71-91           | 7 TOWER<br>SECTIONS | STANDARD CABLE<br>CODE 336101006 | W040 TYPE H07RN-F 4G16 L=51 m<br><i>W040 TYPE H07RN-F 4G16 L=167 ft</i> |

**Table 1.2.1**



**Picture 1.2.1**

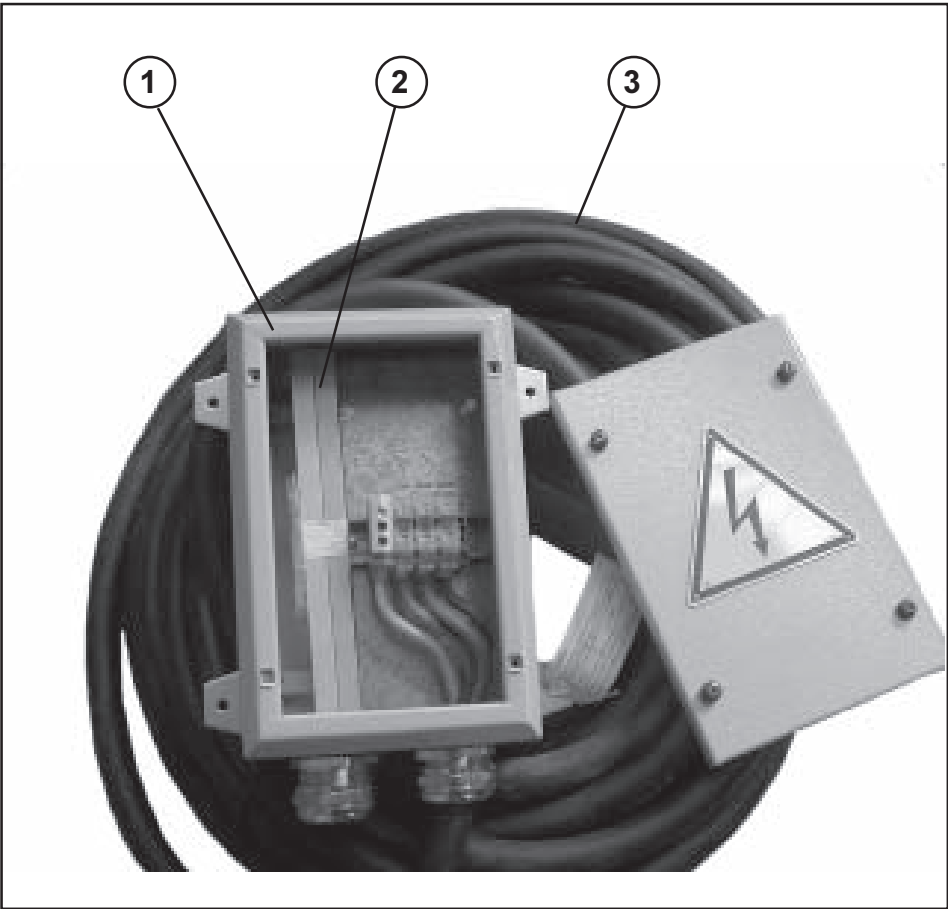
1.3

SUPPLY CABLE EXTENSION

The supply cable extension kit (picture 1.3.1) includes cable (3) of proper cross-sectional area and length (covering a 4-section tower height and identified by different codes, depending on the crane model considered - see table 1.3.1); electrical box (1) and electrical box assembly kit (2) located inside the electrical box.

|                                      |                     |                                  |  |
|--------------------------------------|---------------------|----------------------------------|--|
| CRANE MODEL<br>CTT 121-141-161-181/A | 4 TOWER<br>SECTIONS | STANDARD CABLE<br>CODE 336201010 | W040 TYPE H07RN-F 4G25 L=24 m<br><i>W040 TYPE H07RN-F 4G25 L=79 ft</i> |
| CRANE MODEL<br>CTT 51-61-91-71       | 4 TOWER<br>SECTIONS | STANDARD CABLE<br>CODE 336201011 | W040 TYPE H07RN-F 4G16 L=24 m<br><i>W040 TYPE H07RN-F 4G16 L=79 ft</i> |

Table 1.3.1

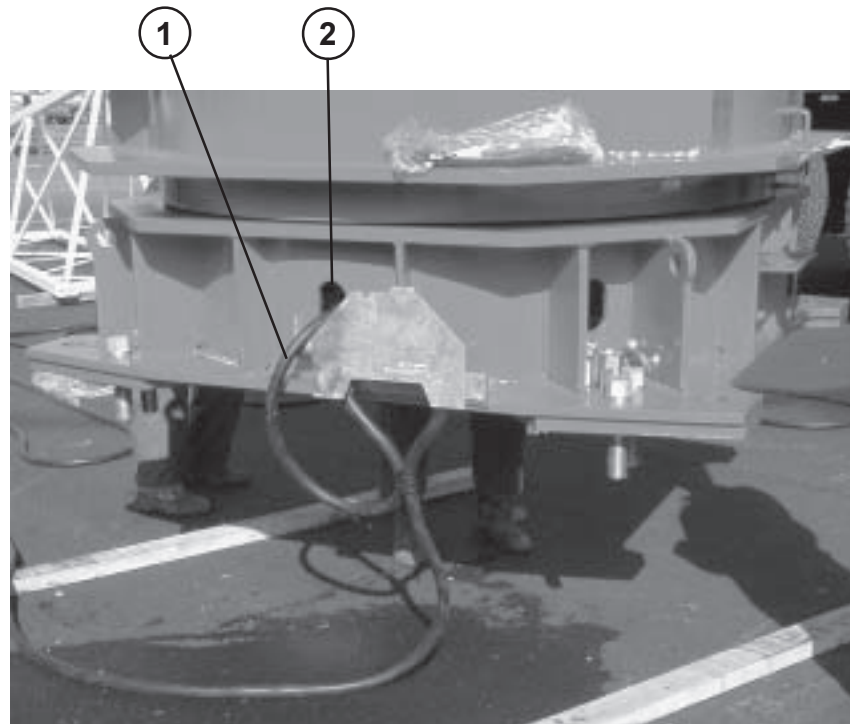


Picture 1.3.1

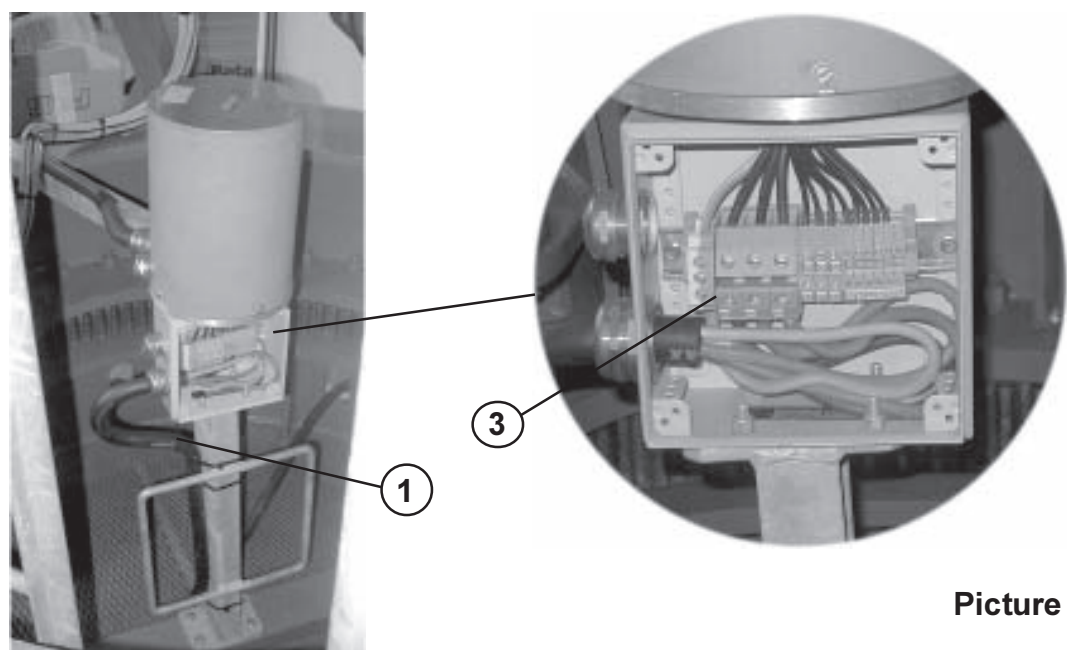
## 2

**POSITIONING THE SUPPLY CABLES RUNNING UP THE TOWER****2.1 CONNECTING THE SUPPLY CABLE TO THE SLIP RING****2.1.1 Crane model CTT 121 - CTT 141 - CTT 161 - CTT 181 - CTT 181/A**

Prior to assembling the slewing unit on the top mast section, reeve standard supply cable (1) inside it through special opening (2) (picture 2.1.1).

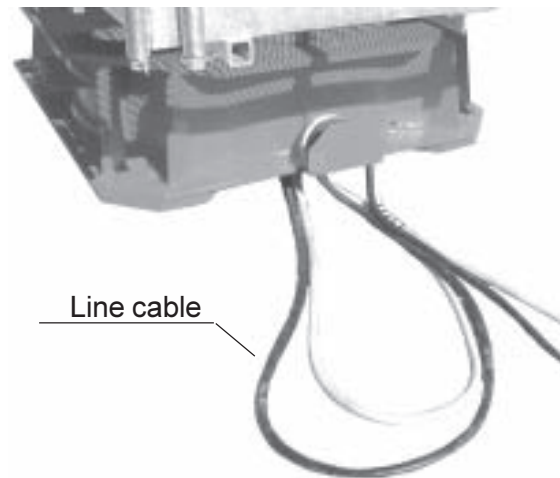
**Picture 2.1.1**

Connect standard supply cable (1) to L1, L2, L3 terminals and earth terminal (yellow-green) (3) inside the slip ring box (picture 2.1.2).

**Picture 2.1.2**

## 2.1.2 Crane model CTT 51 - CTT 61 - CTT 71 - CTT 91

Prior to assembling the slewing unit on the top mast section, reeve the line cable on the special support placed on the lower slewing ring support fixing it with the cable ties (picture 2.1.3).



**Picture 2.1.3**

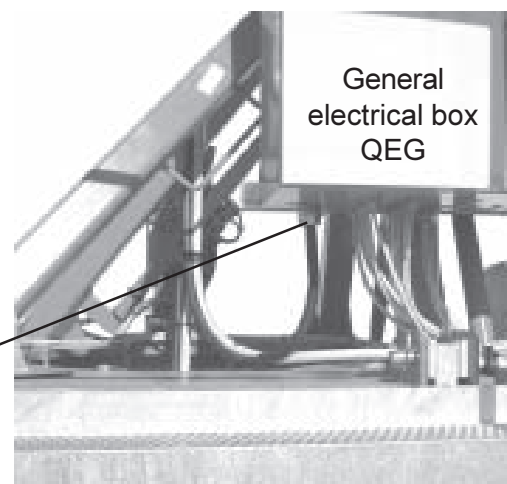
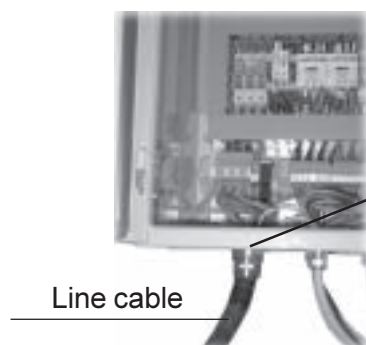
On connecting the slewing unit to the tower, reeve the line cable inside it and between the proper plates placed on the upper longitudinal spar (picture 2.1.4).

Upper longitudinal spar plates



**Picture 2.1.4**

Then connect the line cable to the general electrical box (QEG) (picture 2.1.5).



**Picture 2.1.5**



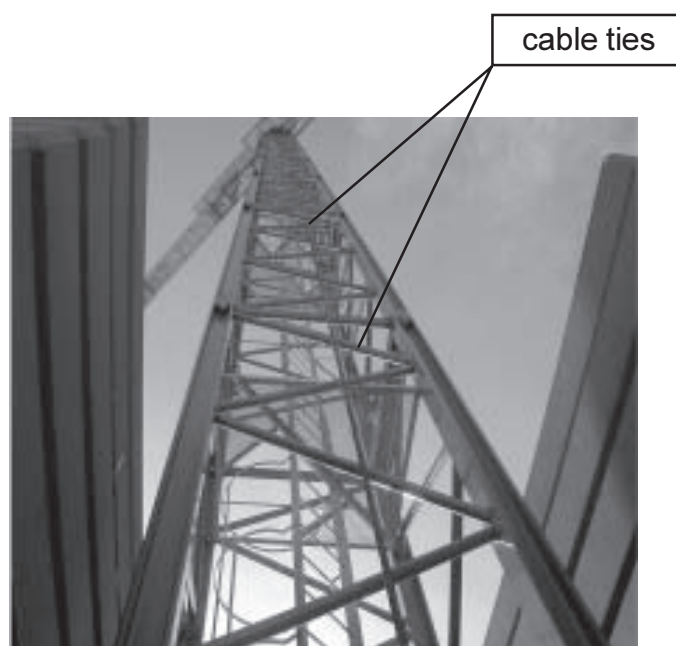
## 2.2 POSITIONING THE STANDARD SUPPLY CABLE



On carrying out the operation called for at para. 2.1, place the slewing unit on the top mast section taking great care over the standard supply cable being lifted with the unit.

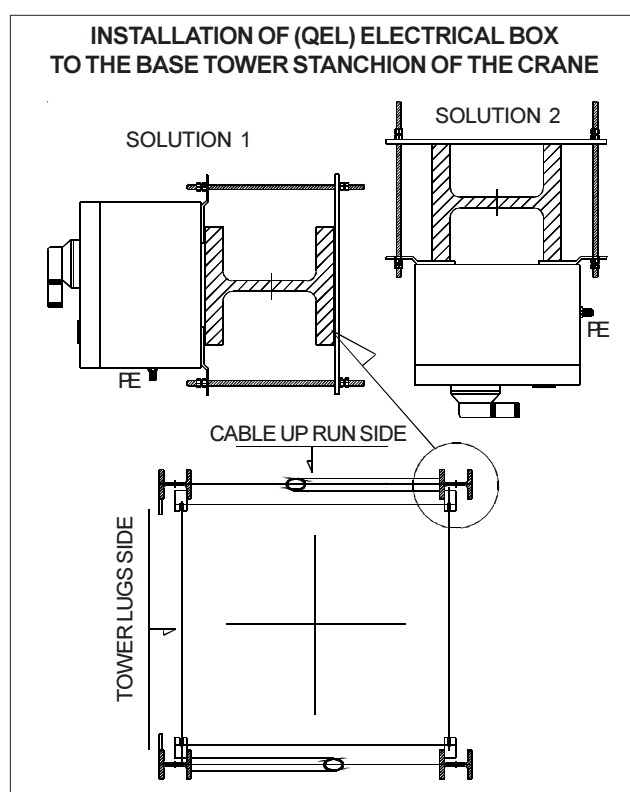
The standard supply cable is spooled on a coil (4) (picture 1.2.1) to make either the cable lifting and uncoiling operation easier.

On assembling the slewing unit on the top mast section, secure the standard supply cable by cable ties (3) supplied (picture 1.2.1) on each tower section down to the crane bottom (picture 2.2.1).



Picture 2.2.1

Once secured the standard supply cable along the tower, position (QEL) electrical box (with supply disconnecting device) at the crane base as shown in picture 2.2.2.

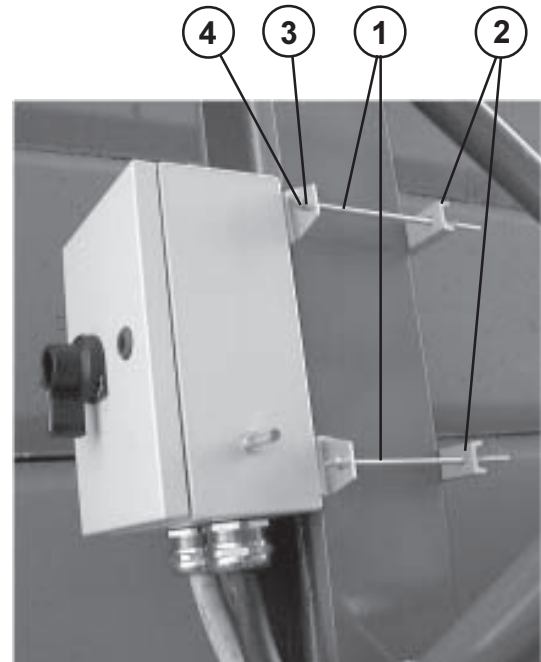


Picture 2.2.2

Secure (QEL) electrical box to the base tower stanchion of the crane with kit ( 2 ) supplied (picture 1.2.1), which includes four threaded bars (1), two 30x5 plates (2), eight M6 washers (3) and eight M6 nuts (4), as shown in picture 2.2.3.



Picture 2.2.3

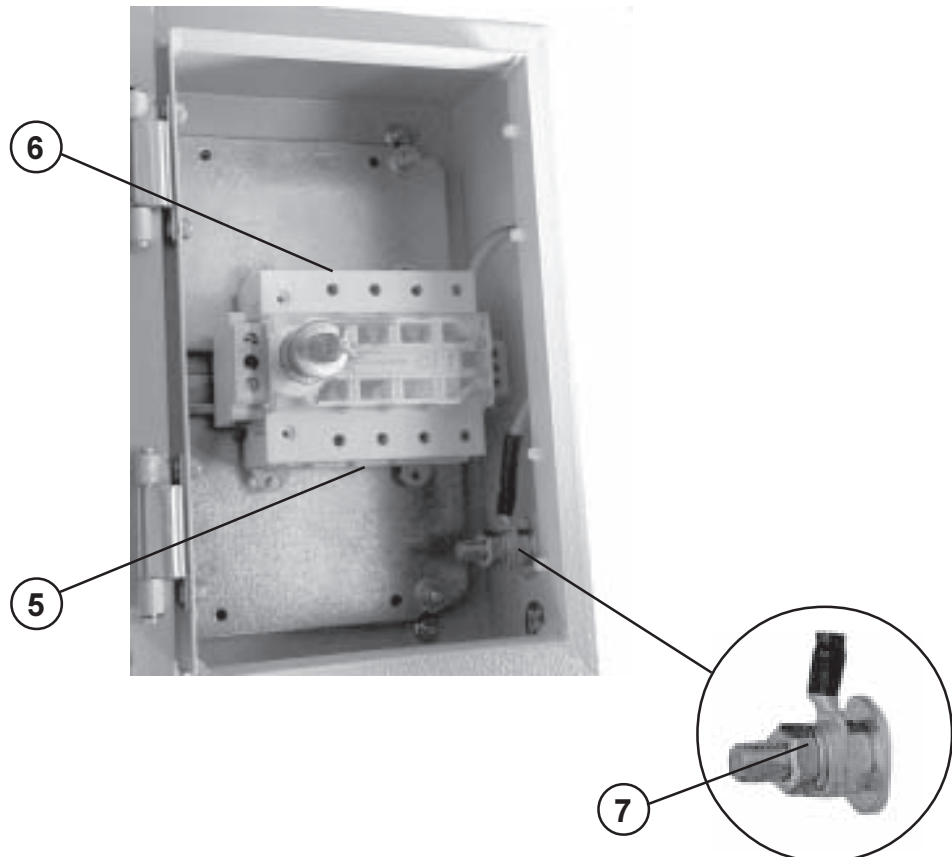


Complete the installation connecting the standard supply cable and the power source cable to the disconnecting device inside the electrical box at point (5) and (6) respectively (picture 2.2.4).



Take great care over the connection of bolt (7), marked with the letters **PE** and connecting the protective bonding circuit of the crane to the external protective conductor of the incoming supply system.

Picture 2.2.4



### 2.3 POSITIONING THE SUPPLY CABLE EXTENSION

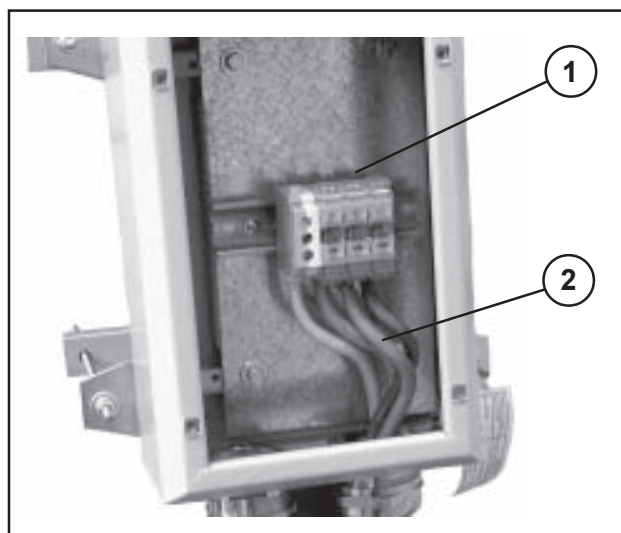
If the length of the standard supply cable doesn't allow to reach the crane bottom, use a supply cable extension.

Secure the electrical box of the supply cable extension (picture 2.3.1) at about 1 m (3 ft) from the standard supply cable end, observing the same operating instructions given at para. 2.2.



Picture 2.3.1

Connect the standard supply cable to terminals (1) inside the electrical box of the supply cable extension (picture 2.3.2).



Picture 2.3.2



Supply cable extension (2) is already connected to the terminals of its own electrical box (picture 2.3.2), but still to be to (QEL) electrical box (with supply disconnecting device) at the crane base.