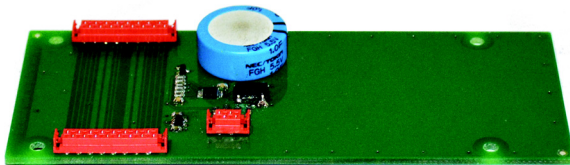




# RTC- Real time clock board

## Option

For Emotron FlowDrive type IP54 and IP20/21



Mounting Instruction  
English



# RTC board

## Option

For Emotron FlowDrive type IP54 and IP20/21

Mounting Instruction - English

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# ENGLISH

## Safety

### Instruction manual

Read this instruction manual first!

This option is a supplementary part of the “main product” and the user must be acquainted with the original instruction manual of the main product. All safety instructions, warnings, etc. as mentioned in this instruction manual must be known to the user.

### Safety instructions

Read the safety instructions in the instruction manual for the main product.

### Installation

Installation, commissioning, dismantling, making measurements, etc. on the main product may only be carried out by personnel who are technically qualified for the task. Installation must also be carried out in accordance with the local standards. Ensure that all necessary safety measures are taken.



**WARNING!**

Take all necessary safety precautions during installation and commissioning to prevent personal injuries, e.g. by an uncontrolled load.

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### Opening the main product



**WARNING!**

Always switch off the mains supply before opening the main product.

For AC drives, wait at least 7 minutes to allow the buffer capacitors to discharge.

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Always take adequate precautions before opening the main product, even though the connections for the control signals and jumpers are isolated from the mains voltage.



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# 1. Introduction

This option board is adding Real time clock function to your FlowDrive. Makes it possible to start a function at desired date, time or weekday.

It also makes it possible to see date and time when an alarm was triggered.

For more information, consult the Software instruction.

## 1.1 Setting time and date

After installing this option card, following menus will be available:

### Clock [930]

#### Time [931]

Actual time, displayed as HH:MM:SS. Adjustable setting.

|          |                                 |
|----------|---------------------------------|
|          | <b>931 Time</b><br>Stp 00:00:00 |
| Default: | 00:00:00                        |

#### Date [932]

Actual date, displayed as YYYY-MM-DD. Adjustable setting.

|          |                                   |
|----------|-----------------------------------|
|          | <b>932 Date</b><br>Stp 2013-01-01 |
| Default: | 2013-01-01                        |

#### Weekday [933]

Display of actual weekday.

|           |   |                                  |
|-----------|---|----------------------------------|
| Read only |   | <b>933 Weekday</b><br>Stp Monday |
| Default:  |   | Monday                           |
| Monday    | 0 |                                  |
| Tuesday   | 1 |                                  |
| Wednesday | 2 |                                  |
| Thursday  | 3 |                                  |
| Friday    | 4 |                                  |
| Saturday  | 5 |                                  |
| Sunday    | 6 |                                  |

## 1.1.1 Programming example

This example shows how to program the time.

The flashing cursor indicates that a change has taken place but is not saved yet. If at this moment, the power fails, the change will not be saved.










|  |   |
|--|---|
| <b>100</b> <b>Orpm</b><br>Stp <b>A</b> <b>0.0A</b>     | Menu 100 appears after power-up.  |
| <b>900</b> <b>System Data</b><br>Stp <b>A</b>          | Press  key to access menu [900].   |
| <b>920</b> <b>VSD Data</b><br>Stp <b>A</b>             | Press  key to access menu [920].   |
| <b>930</b> <b>Clock</b><br>Stp <b>A</b>                | Press  key to access menu [930].   |
| <b>931</b> <b>Time</b><br>Stp <b>A</b> <b>00:00:00</b> | Press  key to access menu [931].   |
| <b>931</b> <b>Time</b><br>Stp <b>A</b> <b>00:00:00</b> | Press the  or  key once and the last number will start flashing. Change the value with the same keys. |
| <b>931</b> <b>Time</b><br>Stp <b>A</b> <b>00:00:08</b> | Press the  or  to activate desired value and change the values.                                   |
| <b>931</b> <b>Time</b><br>Stp <b>A</b> <b>10:45:08</b> | Save the changed value by pressing  .  |

Fig. 1 Programming time

Go to menu “Date [932]” and set date in the same way.

Press Enter to save the setting and Esc to leave the edit mode when ready.

The menu “Weekday [933]” is showing actual weekday and is not editable.

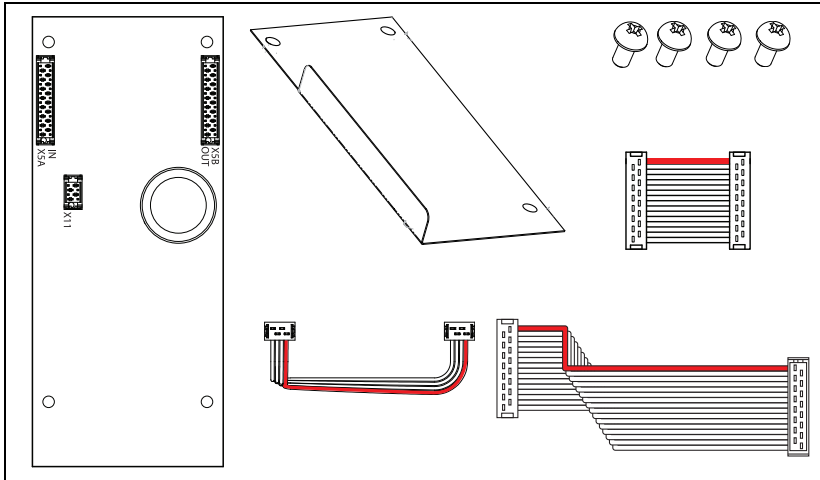
## 2. Installation

### Installation in FlowDrive type IP54 and IP20/21

This chapter describes how to mount option boards in the AC drive.

On these AC drives up to three different option boards and one communication board can be mounted.

### 2.1 The option kit



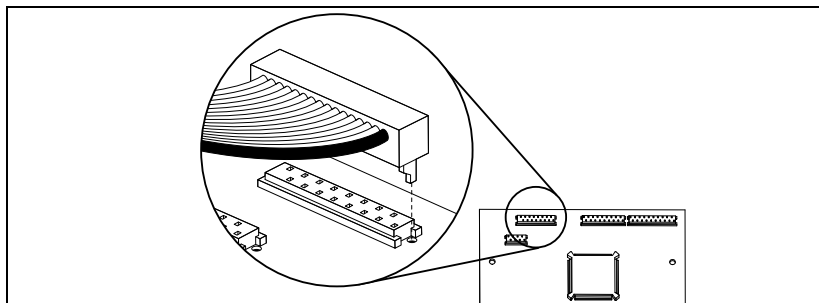
*Fig. 2 Option kit contents*

Table 1 The option kit content.

| Part number | Description | Content   |
|-------------|-------------|---|
| 01-3876-15  | RTC board   | <ul style="list-style-type: none"> <li>• 1- Option board.</li> <li>• Four screws, M3 x 6.</li> <li>• One 16-pole flat cable, approx. 75 mm long. This cable is used to connect the first option board to the control board.</li> <li>• One 16-pole flat cable approx. 32 mm long, for connection between two option boards.</li> <li>• One 4-pole flat cable approx. 125 mm long, for connection to the control board.</li> <li>• Insulating sheet</li> </ul> |

## 2.2 Polarisation of flat cables

The flat cable is marked with a colour on one side and has a pin on the micromatch male contact. This side must be matched to the female micromatch contact on the control board and option board respectively, where a small hole in the board is located.



*Fig. 3 Polarisation of flat cables.*



### **CAUTION!**

Incorrect connection might cause damage to both the option and to the control board/external equipment.

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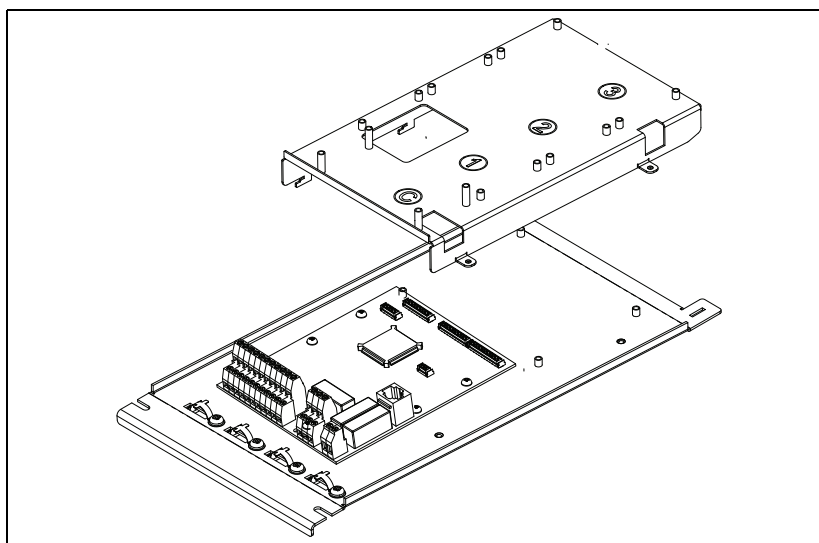
## 2.3 Mechanical mounting

Make sure that the AC drive has been switched off for at least seven minutes to ensure that the capacitor bank is discharged before continuing with installation! Also make sure that no external equipment connected to the drive's interface is powered on.

### 2.3.1 Mounting the first option board

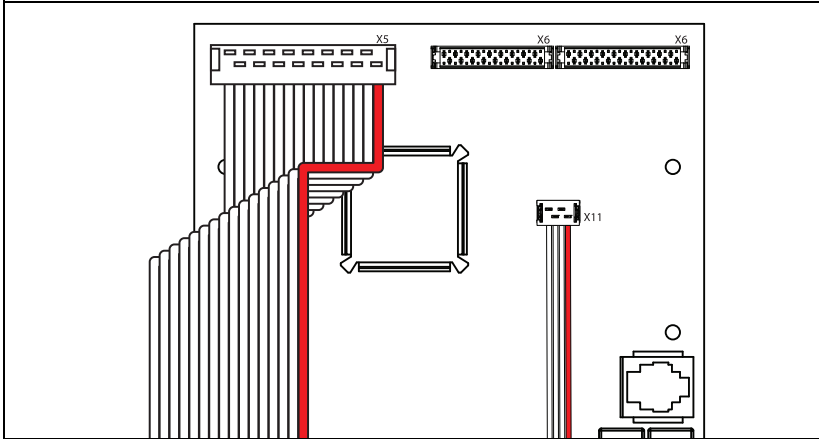
The first option board is always mounted on the slot marked 1 on the mounting plate. In this example we assume that no other option board is installed.

1. Remove the option plate see Fig. 4.



*Fig. 4 Remove the option plate.*

2. Connect the 16-pole flat cable (75 mm) to the X5 connector on the control board with the cable downwards.  
Connect the 4-pole flat cable (125 mm) to the X11 connector on the control board with the cable downwards.  
See Fig. 5



*Fig. 5 Flat cable connected to the control board.*

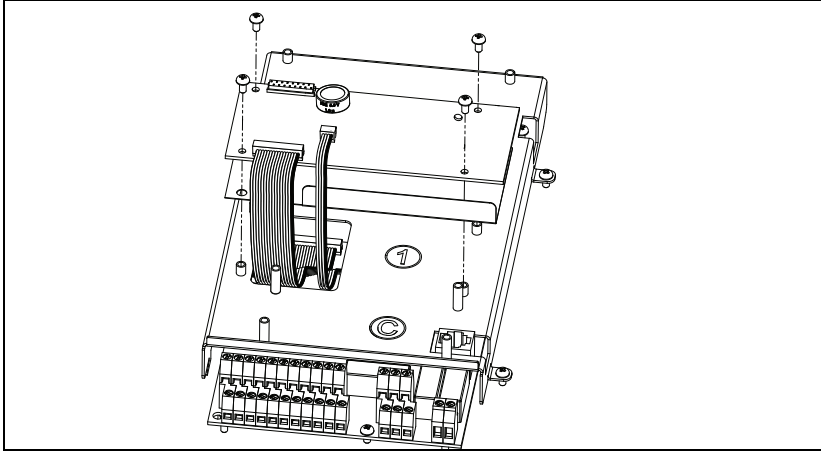
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**NOTE:** For polarisation of the flat cable, see section 2.2 on page 10.

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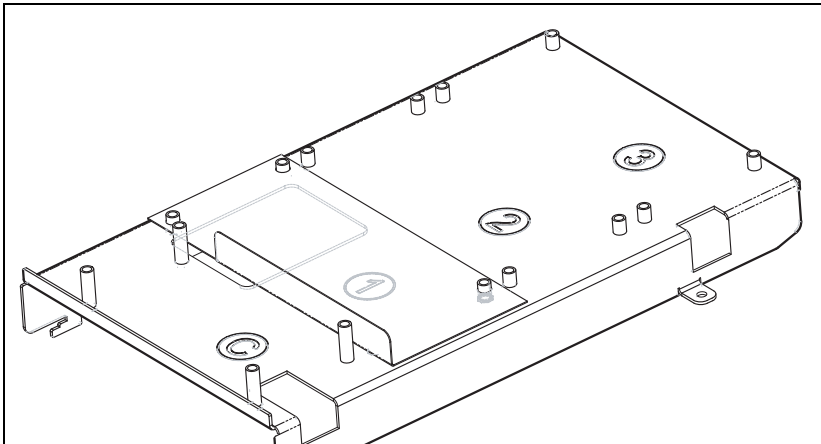


3. Lead the flat cables through the rectangular hole in the option plate see Fig. 6. Mount the option plate again. Secure the plate with the two screws.



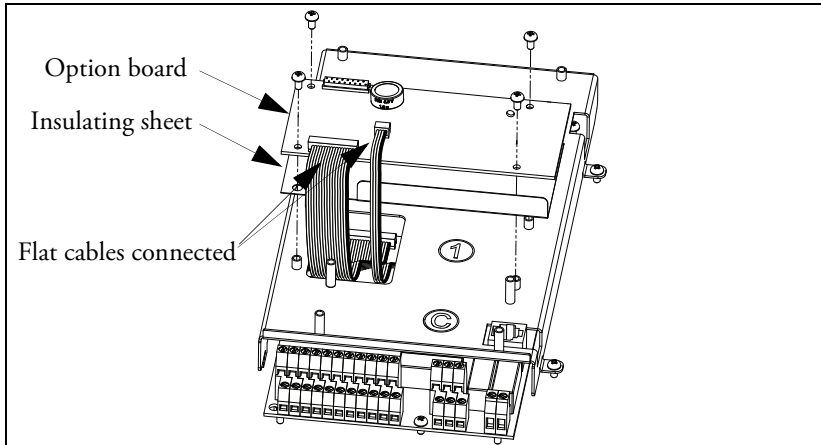
*Fig. 6 Lead the cables through the rectangular hole and mount the option plate.*

4. Place the insulating sheet over the short spacers on the slot marked 1 on the mounting plate. Make sure the flap bent upwards is mounted towards the control board interface as in the figure below.



*Fig. 7 Mounted insulating sheet*

5. Connect the other end of the 16-pole flat cable to the X5A connector and the 4-pole flat cable to the X11 connector on the option board see Fig. 8. Make sure that the polarisation is correct as in section 2.2 on page 10.



*Fig. 8 Connect the flat cables to the RTC-board and mount the RTC-board.*

6. Put the option board on the spacers and fasten the board using the four screws see Fig. 8.

## 2.3.2 Mounting another option board

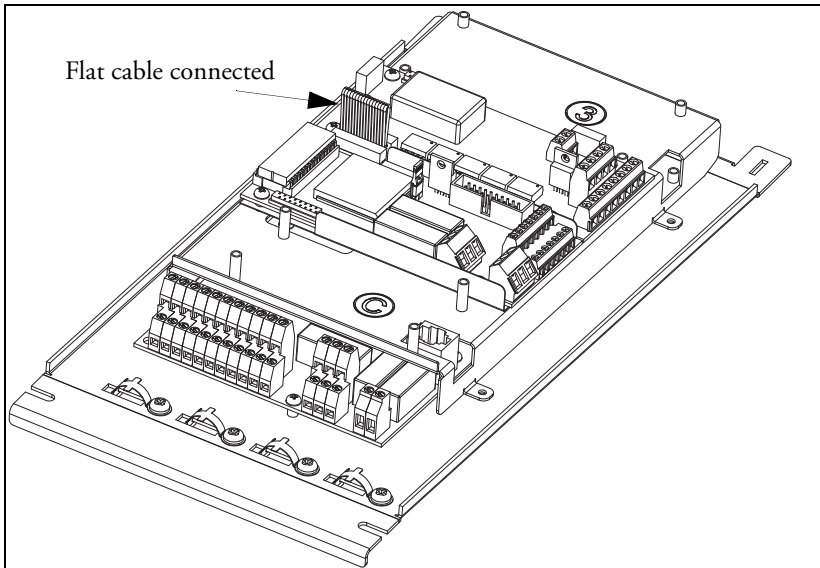
1. Place the insulating sheet on the spacers on the option board slot marked 2 or 3. It is necessary to select the slot closest to the already mounted option board.

---

**NOTE:** Place the insulating sheet with the turned up flap facing the interface of the control board to achieve proper insulation between the option boards.

---

2. Put the option board on the spacers.
3. Fasten the option board on the spacers using the four screws.
4. Connect the short flat cable between the X5B connector on the first option board and the X5A connector on the option board you have just mounted.



*Fig. 9 Two option boards mounted on the mounting plate (Picture in general).*

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