Fält EC II+
Manual and installation instructions

Version: 4.2
Updated: 2005-10-28

1 Table of contents

2 Notes

We would like to thank you for placing your confidence in Fält Communications AB and are convinced about the choice of one of our security products will fulfill your expectations. In order to operate this Fält EC II+correctly we would ask you to read this manual carefully.

3 Copyright

3.1 Description of goods

Hereby Fält Communications certifies that this product is in compliance with essential requirements and with other relevant regulations that is evident of directive 1999/5/EG and the following standards:

Emission	EN50801-1 EN12015
Immunity	EN50082-1 EN120016
Telecom	TBR21

CE

The equipment has been approved in accordance with Council Decision 98/482/EC (CTR 21) for pan-European single terminal connection to the public switched telephone network (PSTN). However, due to differences between the individual PSTN provided in different countries, the approval does not, in itself, give unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, please contact your equipment supplier.

It also complies with requirements according to EN81:1-2, EN81:28 & EN81:70.

Umeå, August 2005

Rolf Sandberg

CEO, Fält Communications AB

3.2 Warranty

There is a 2-year warranty (24 months) for manufacturing failure or material failure commencing with the delivery date.

Warranty does not include:

- Incorrect or careless usage
- Damages caused by thunderstorms or air pollution.
- Vandalism or damage.
- Normal wear

Fält Communications AB reserves the right to determine if the product will be repaired or replaced. Warranty ceases to be valid if defects occur due to incorrect use, or other method of application, or context that has been specified in this manual.

3.3 Updates

Visit our website to get access to the latest updates for market information and technical documentation. Following information can be found:

- Product surveys
- Market material
- Updated user manual
- Software and available updates
- Installation and maintenance instructions
- Contact information

http://www.faltcom.se/

3.4 Repair return procedure

Fält Communications AB only accepts returns, which are accompanied by a completed Service Card, which can be found in the section *Service form.* This form can also be downloaded from our website. If the product is purchased from one of our distributors the buyer must first contact the distributors for assistance.

All returns must be sent well packed with freight paid to the address:

Service department
BL Elektronik AB
Furuhedsvägen 1
952 31 Kalix
Sweden

Repaired products are sent to customers as a regular post parcel with freight paid on the assumption that the product is included by warranty. If the investigation shows that there are no defects on the returned product the customer is charged with a service fee and freight charge. The customer can ask for a quotation for repair of product not covered by warranty.

3.4.1 Service form

SERVICE FORM

Used for equipment of type: DC/DC-converter, Emergency power supply KONE Direct II, KONE Direct III, KONE Direct GSM, Fält EC-II, Fält EC-II GSM

Return the equipment and a complete service form to:

Service department
BL Elektronik AB
Furuhedsvägen 1
SE-952 31 KALIX, Sweden
Tel +46 (0)923-667 24 **Fax +46 (0)923-125 40**
+46 (0)90-18 39 27 (Support issues)

Sender/Company name	Date
Address	Lift number/ID number
Zip code City	Lift phone telephone number
Country	Mechanic/Contact person
Order number	Telephone/Mobile

Note that not all information below is applicable for all products. Only complete the part valid for the product which will be sent to service

The problem was discovered:

☐ When mounting ☐ After an operation time of about ..... weeks

The lift phone was power supplied by:

☐ The telephone line ☐ DC/DC-converter ☐ External Emergency power supply ☐ 230 VAC

The lift phone:

☐ Was single mounted ☐ Shared telephone line with ..... number of other lift phones

The lift phone was:

☐ Connected via a switch ☐ Connected on a direct telephone line (PSTN)

The telephone line to the lift car was:

☐ A separate cable ☐ Inside the ordinary lift cable

Error description/Miscellaneous information:

2005-08-08 - v1.5

4 General

4.1 Contents of packing

Packing for Fält EC II+ contains following parts:

Fält EC II+ with frame, Art No. 2017, includes:

- Art No. 2018 ECII Unit 1
- Art No. 2019 Mounting Kit ECII
- Art No. 2022 ECII Sticker
- Art No. 2014 Programming Guide
- Art No. 2150 Pictogram Label

Fält EC II+ behind COP, Art No. 2035, includes:

- Art No. 2031 Lift phone behind COP
- Art No. 2032 Mounting Kit Behind COP
- Art No. 2022 ECII Sticker
- Art No. 2014 Programming Guide
- Art No. 2150 Pictogram Label

4.1.1 Accessories

Following accessories can be ordered separately from Fält Communications AB or from our distributors:

- Emergency Power Supply consisting of:
  - Emergency Power Supply — Art No. 2001
  - Connections Cable PSU – ECII — Art No. 2002
  - Battery 12V 2Ah — Art No. 2003
- DC/DC Converter 12V/4.3V — Art No. 2038
- DC/DC Converter 24V/4.3V — Art No. 2039
- Alarm button — Art No. 2042
- Lift Cable — Art No. 2044
- Cable Bracket — Art No. 2046
- Emergency light 12V 5W — Art No. 2112
- Pictogram Driver — Art No. 2144
- GSM Unit — Art No. 2109
- Intercom — Art No. 2113
- Pictogram Label — Art No. 2150

For more information about the accessories please visit our website http://www.faltcom.se/

5 Introduction

5.1 Foreword

We recommend a carefully reading of this user manual before Fält EC II+ is put into operation, to ensure that the product is used safely and effectively.

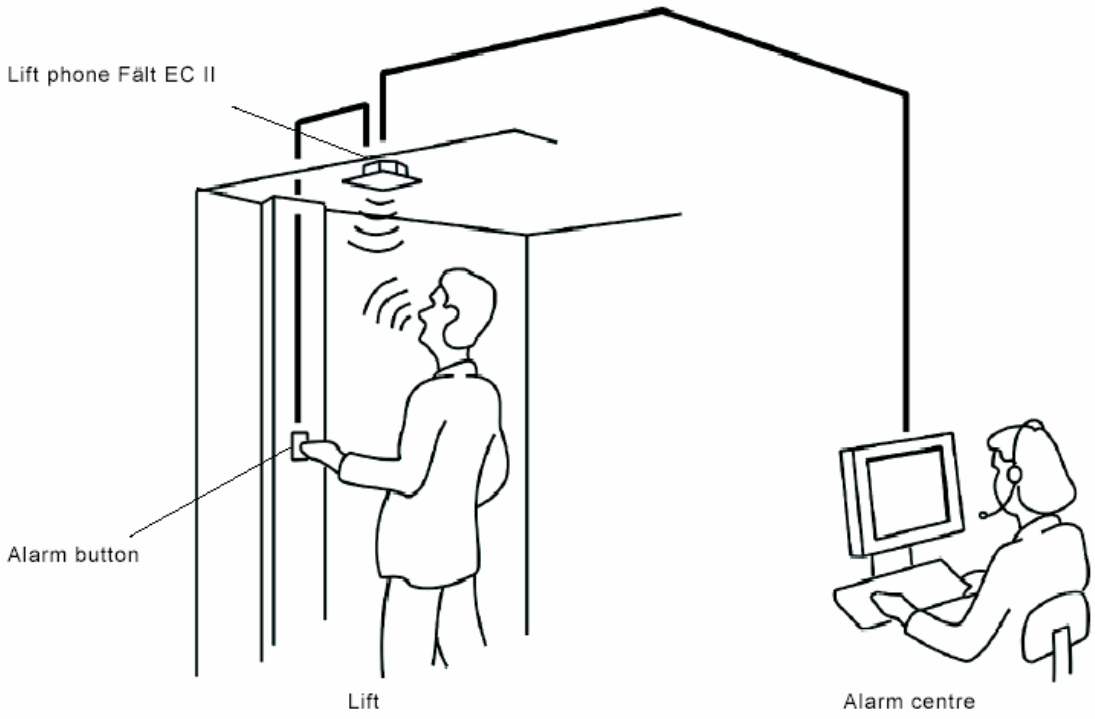
Fält EC II+ should only be used in the context for which it is intended. All other form of usage will be considered as being solely the users own risk. Only qualified persons are permitted to install, program and start-up this product. Start-up is only allowed after the product has been properly installed. As a consequence Fält Communications AB disclaims all responsibility for possible defects, operational disturbance, accidents etc. caused by lack of knowledge or carelessness from the user. The same principle is valid for all not approved changes to the product.

Fält Communications AB reserves the right to make changes in the product for functional or commercial reasons. The company is not forced to immediately update reference manuals.

5.2 Product description

The Fält EC II+ is alarm equipment for the PSTN network with built in duplex speech communication designed for installation in lifts.

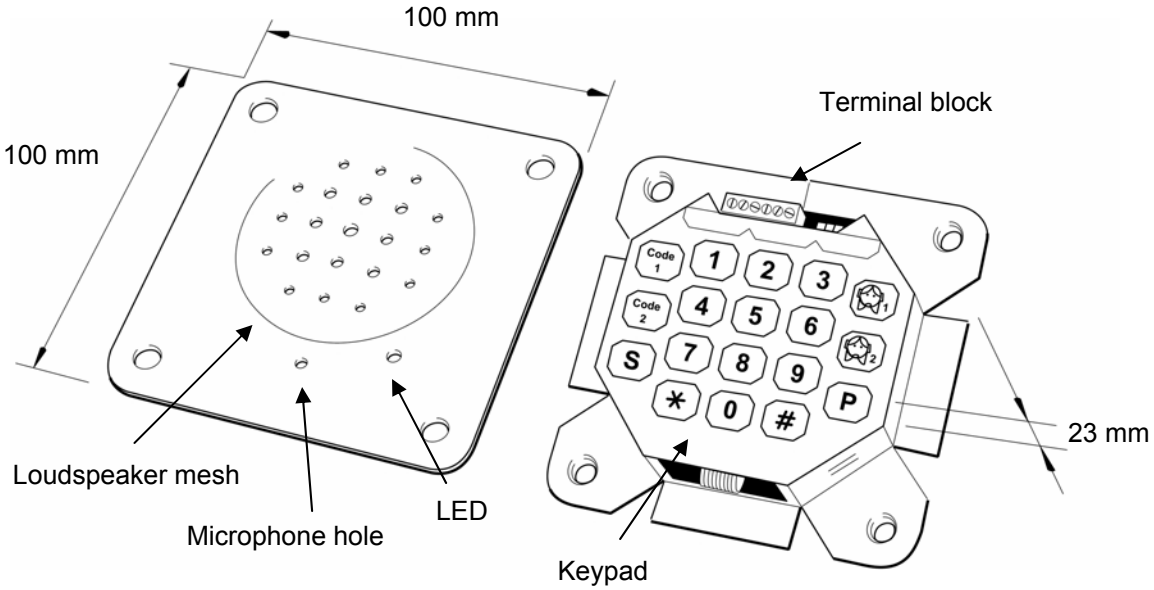
The Fält EC II+ is a dialing alarm transmission unit with built-in voice communication function, intended for installation in passenger lifts. When a lift passenger presses the button for alarm/emergency signal, the lift phone automatically calls up an alarm centre or some other predefined alarm receiver and indicates where the alarm comes from. At the same time, voice communication is established and the person in distress can talk to the staff at the alarm centre, from where help will be dispatched.



5.2.1 Design and function

The user only sees the lift phone as a discreetly designed panel with perforated screen plate for the loudspeaker and microphone. The lift phone is activated with the standard alarm button in the lift or, if required, with a separate alarm button. When someone presses the alarm button for more than 4 seconds, the alarm calling process is activated in the lift phone. This time delay can easily be programmed to between 2 and 30 seconds.

The lift phone design also facilitates mounting. Loudspeaker, microphone, all the electronics, the keys for programming and testing, as well as all connection points are integrated in one single unit. This means quick and easy installation as well high reliability in operation.



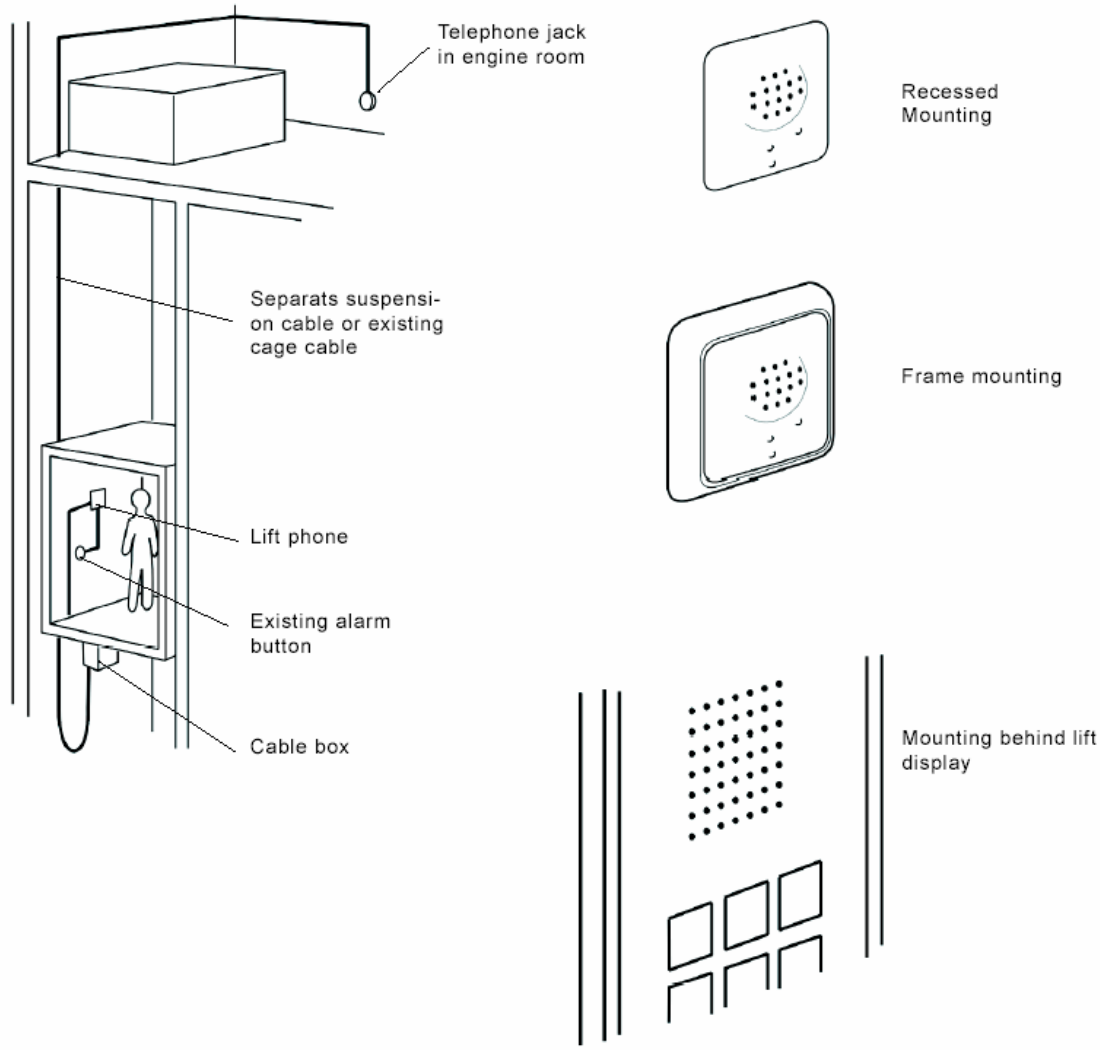
On the lift phone's front plate, there is a double colored LED (yellow and green), which is normally off. It shows yellow fixed light to indicate connection of an alarm call and changes to green fixed light when the alarm has been received by an alarm centre. The LED is also used to indicate programming mode. The LED can be programmed to other functionality, see section *Programming* for more information. Note that with a separate device, called Pictogram Driver, external lamps with pictograms can be activated. Contact your local distributor for more information.

The lift phone can be mounted recessed in the cage ceiling/wall, or mounted in a frame, which eliminates the need to make other holes than those for the cables.

Depending on the design of the button & display plate, it may also be possible to install the lift phone in a prepared space behind the plate. There is a version of the lift phone with a completely flat panel, specially intended for such mounting. Contact your local distributor for more information.

The connection of the lift phone requires one cable to the alarm button in the lift and one two-wire cable to the lift engine room for connection of a standard analogue telephone line. It is possible to use a separate suspension cable of the type round cable or flat cable. As an alternative, two unused wires in the existing cage cable can be used. It is very important that the cable is fastened properly. For the separate suspension cable, there is a special mounting kit, which includes the necessary mounting parts.

The Fält EC II+ consumes very little power and can be supplied by the voltage from the telephone line. Separate power supply is only required if several lift phones are connected to the same telephone line or if the line voltage is below 32 VDC. See more under section *Technical Data*.



5.2.2 Multiple lift phone connection

Several lift phones may be connected to the same telephone line. When one of the lift phones has established a connection, the other ones will not be able to use the line; a busy tone will instead be heard in the loudspeaker. When the line becomes free, the alarm call will be connected automatically.

Installation of two or more Fält EC II+ on the same telephone line requires a separate power supply to the lift phones. The lift phone outlet marked DC is then connected to the existing emergency power supply of the lift via a special DC/DC converter. If no power supply is available a separate emergency power source with a built-in battery can be used. Fält EC II+ can then also send information about the battery status to the alarm central. Both products are described in the product catalogue.

A total of maximum six lift/emergency phones may be connected on the same subscription. Ordinary telephones, fax machines, modems or other types of alarm transmitters must not be connected to the same telephone line as Fält EC II+ because it might disturb the functionality.

5.2.3 Programming and testing

On the back of the lift phone, there is a keypad used for programming call numbers, function selection, and testing. All such settings are made during the installation and, normally, no subsequent changes are required. It is also possible to remotely program the lift phone with a special Windows program and a modem. Contact your local distributor for more information.

The Fält EC II+ is capable of calling 6 alternative alarm receivers (2 of them with an optional alarm code) or six standard telephones with tone selection. The alarm code identifies the lift phone at the alarm centre.

The lift phone can be programmed to send a test alarm to a specific test alarm receiver with an interval of 1–9 days. This alarm tests the lift-phone electronics and the telephone line.

The lift phone can also be programmed to answer an incoming call automatically after four ringing signals. In this case, tones are heard in the receiver when the call is connected.

If an emergency power supply is connected, the lift phone automatically can send an alarm if the battery is bad and need to be replaced. A special telephone number for the battery alarm can be programmed.

See *Programming* section for detailed programming instructions.

6 Installation instructions

Only competent and qualified personnel may install the Fält EC II+. Knowledge, technical skill and correct equipment are required for safe and efficient installation.

Mind your own safety when installing Fält EC II+. You must never work in an open lift shaft without a safety harness. Be extremely careful and break current if you work close to a voltage of 230-400V, e.g. in the lift engine room. Never disconnect a cable before you have made sure that it is not connected to any voltage

Start by selecting a suitable place for the lift phone. Usually, you can find an easily accessible and yet well protected place in the lift cage ceiling. Avoid installing the phone in a corner or behind anything that may reflect the sound. Such installation might lead to acoustic feedback instability between the loudspeaker and the microphone. You must be able to access the existing suspension cable and the alarm button in the lift. Also, keep in mind that you must be able to access the back of the lift phone in order to connect cables and program different functions. Normally, this is easier to do inside of the lift, before the lift phone is screw-mounted.

Make sure that you will not saw or drill in existing cabling when you make the holes!

6.1 Recessed mounting

1. Select a suitable place according to the instructions above.

2. Drill a hole in the centre of the selected place and then make a hole with a 86-mm rotary hole saw or drill. See the enclosed drill template.

3. Fasten the lift phone with the 4 enclosed screws. If it will not be possible to access the lift phone from outside the lift cage, cables must be connected and the lift phone programmed before it is mounted.

6.2 Frame mounting

1. Mark and pre-bore the holes for the lift phone frame according to the enclosed drill template. Drill the holes for the cables to the alarm button and telephone connection according to the drill template.

2. Fasten the frame first and then the lift phone with the enclosed screws, after the cables have been connected and the lift phone have been programmed.

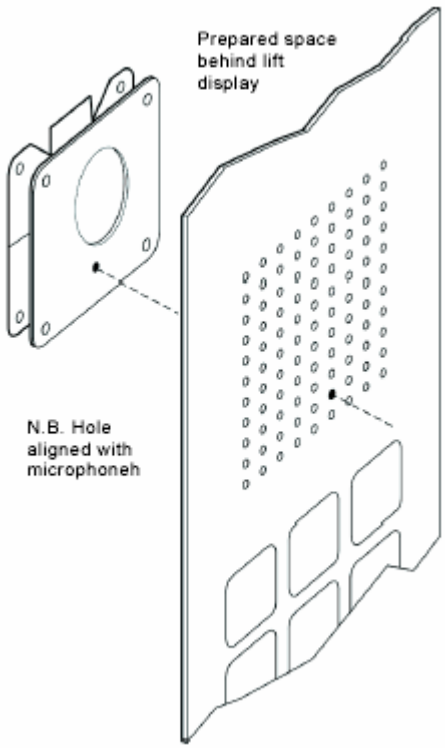
6.3 Mounting behind the car operating panel

This alternative is only possible if there is already a prepared space for a lift phone behind the button & display plate. There is a special version of the lift phone which is specially designed for mounting behind a button & display plate.

Since the design of the display may vary, we are not able to give exact mounting instructions here.

Keep in mind that the microphone hole must be aligned with a hole in the display plate. It might become necessary to drill a new hole.

For the best sound quality, the distance between the lift phone front plate and the display plate should not exceed 1 mm



6.4 Connection to alarm button

1. Draw a two-wire cable (max 10 m) from the lift's alarm button and screw the wires on to the lift phone's terminal block at "ALARM".

2. Fasten the cable with cable ties or cable clips on the outside of the lift.

Note that the alarm button in the lift cage is normally double-breaking, i.e. made for two separate connections, one of them usually connected to a local bell and the other one used for the lift phone. The connections must be galvanically isolated. If they are not, or if the existing alarm button only has one connection, the button must be replaced to another type.

6.4.1 Closing alarm button function

Note that the alarm button may have closing or breaking function. Breaking function is to be preferred and is the default setting in Fält EC II+. If the button has closing function, the lift phone must be programmed to handle this. See section *Programming* for more information.

6.4.2 Separate alarm button(s)

If there is no alarm button in the lift, a separate button must be installed in the cage and marked accordingly. Note that, in order to avoid misunderstandings, there should never be two alarm buttons in a lift cage. It is possible to connect extra alarm buttons to the unit, for instance on top of the lift car where a repair man can be trapped. It is important that all buttons are of the same type.

6.5 Connection to telephone line

The lift phone must be connected to a standard analogue telephone line. Normally it can also be connected to an ISDN connection via a terminal adaptor. To minimize disturbances when more than one Fält EC II+ is connected to the same telephone line it is recommended that they are connected in series, not in parallel.

If the lift phone is connected to a standard telephone jack, the jack should be located in the lift engine room or some other room with no admittance to unauthorized persons. This is important to make sure that the connection will not be interrupted by mistake.

6.5.1 Connection via telephone exchange

The Fält EC II+ can be connected to an extension in a telephone exchange, provided the connection is analogue. Digital exchanges usually have at least one analogue connection, since many alarms, faxes and modems require analogue communication. **When connecting to a telephone exchange it must be verified that the exchange also works in case of power failure.** The lift phone has a function, which enables it to dial a zero and then wait two seconds for the dialing tone before proceeding with the alarm number. See section *Programming* for more information.

6.5.2 Connection with separate suspension cable

Normally, a separate suspension cable of the type round cable or flat cable is used between the lift phone and the telephone jack. A separate suspension cable usually gives better sound quality and less interference. The required length of cable and mounting kit can be ordered with the lift phone.

Note that the cable brackets included in the mounting kit must be used in order to guarantee the function. The combined wall and lift-cage brackets comprise bracket, screw, washer and cable ties.

Check carefully that the cable will not be torn off nor squeezed or rubbed between lift cage and shaft wall.

6.5.3 Flat cable

1. Check that the cable is long enough, with a margin, to reach the telephone jack.

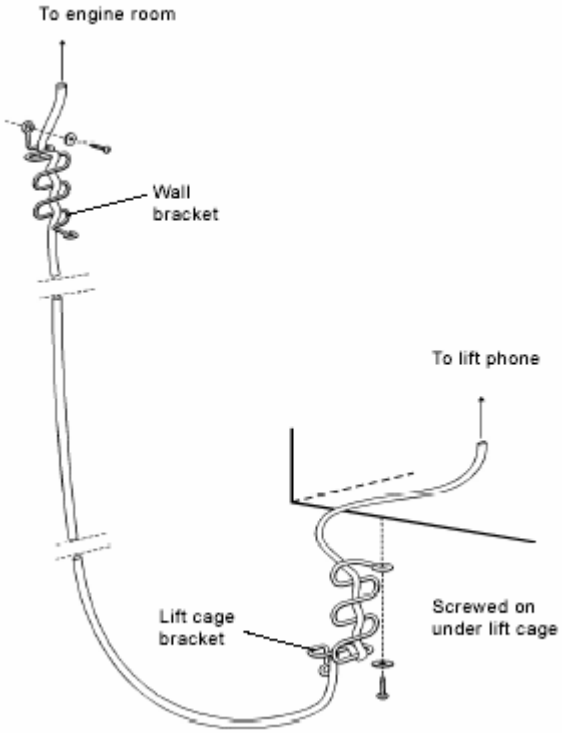
2. Fasten the cable securely until it reaches the lift shaft wall.

3. Secure the cable with a wall bracket according to the figure on this page.

4. Fasten the lift-cage bracket under the lift cage with screws, and attach the cable to the bracket. Alternatively, the cable can be attached to some suitable beam on the lift cage instead of the lift-cage bracket.

5. Draw the cable to the lift phone and connect the wires to the terminals marked ”TELE”.

6. Fasten the cable with cable ties or cable clips on the outside of the lift near the lift phone.



7. Connect the two central wires in the enclosed modular connector to the suspension cable wire, and connect the modular connector to the telephone jack in the engine room. Mark the connection so that it will not be removed by mistake.

6.5.4 Connection via existing cable

Warning! Make sure there is no 230–400 V in cables that you will have contact with.

Normally, the existing lift cable (usually a big flat conductor cable) goes to a cage cable box, where you may find unused wires (if any) that can be used for the lift phone. It is important that the used wires are next to each other in the lift cable to minimize disturbances. In case of bad sound quality a separate cable must be used.

1. Connect a two-wire cable from the unused pair in the cage cable box and draw the cable to the terminal strip marked ”TELE”.

2. Fasten the cable with cable ties or cable clips on the outside of the lift near the lift phone.

3. Connect the suspension cable wire to the telephone jack in the engine room. Mark the connection so that it will not be removed by mistake.

6.6 Connection of voltage feed

Note that separate voltage feed is only required if more than one lift phone will be connected to the same telephone line or if single-mounted to a line voltage below 32 VDC, usually an internal telephone exchange (PABX). This limit is possible to decrease in case of a single mounted lift phone by mounting the attached jumper marked “J1” next to the green screw connector. Then the lift phone can be used without a separate power supply down to 22 VDC. Note that when the jumper is mounted it is **not allowed** to connect the lift phone to the public switched telephone network (PSTN) but only to a PABX. See also section *Technical Data.*

The voltage feed must come from a source that will work even in case of a power failure, e.g. the lift’s emergency light system, and must go via a special DC/DC converter. This converter is galvanically separated from ground, which is necessary in order to avoid disturbing the telecom station. If no existing emergency power supply is available a separate emergency power source with a built-in battery can be used. Contact your local distributor for more information.

1. Connect a two-wire cable to the existing suspension cable wire for emergency lighting. Measure to verify the correct voltage between the pins.

2. Connect the cable to the DC/DC converter’s input.

3. Connect the DC/DC converter to the lift phone outlet marked ”DC”.

4. Screw the DC/DC converter on the outside of the lift and fasten the cable with cable ties or cable clips.

When connecting two or more lift phones on the same telephone line, each phone shall be programmed for detection of occupied line:

P * 2 0 0 P

To deactivate this function, press:

P # 2 0 0 P

Note: this re-programming must be done while the DC/DC converter is connected.

See more under section *Busy line function.*

6.7 Connection to loop amplifier

To enable passengers with impaired hearing to communicate with alarm centre there is a possibility to connect a loop amplifier. Contact your local distributor for information about approved loop amplifier to be used with Fält EC II+.

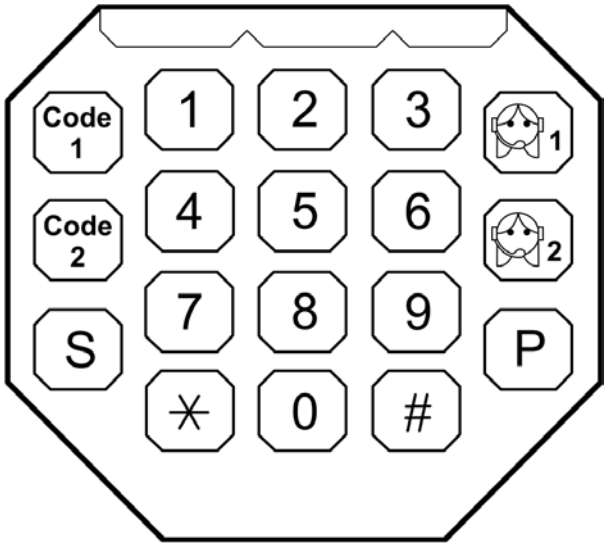
Connect the output marked “LOOP AMP” to the loop amplifier. The loop amplifier must work during power failure. Connect it to a power supply that is working during power failures.

6.8 Connection of external pictogram

It is possible to connect external lamps to indicate alarm status on the lift phone according to EN81:70 with the accessory Pictogram Driver. It contains a DC/DC-converter and drive circuits for external lamps. It is connected to the output marked DC/DC, to 12V emergency power and to the external lamps.

7 Programming

All programming i.e. alarm numbers, codes to be sent and various function selections is done with the keypad on the back of the speech unit. For practical and ergonomically reasons it is recommended that all programming is done at (e.g. at a desk) before the Fält EC II+ is mounted in the lift. All programming remains in the lift phone also after it is disconnected from the telephone line.



The keys on the keyboard have the following functions:

P **Programming** – Starts and end of an all programming sequences.

S **Sequence receiver –** Used when programming more than 2 alarm receivers.

1 **Alarm receiver 1 –** Phone number to alarm receiver 1

2 **Alarm receiver 2 –** Phone number to alarm receiver 2

Code 1 **Alarm code 1 –** Used for alarm receiver 1, 3, 4, 5 and 6

Code 2 **Alarm code 2 –** Used for alarm receiver 2

The other keys have the same function as on a standard telephone.

At each time the keys are depressed in programming mode a short tone is heard and after each programming sequence, there is a 4-tone for successful and a 1-tone for unsuccessful programming.

The Fält EC II+ can also be programmed remotely. Contact your local distributor for more information.

7.1 Standard functions

Below follows a description of the most frequent programming sequences, which will be used by programming the Fält EC II+. A number of special functions are presented below the next section.

7.1.1 Activation of programming mode

The Fält EC II+ can be programmed only after it has been set to programming mode. The unit must be voltage fed from the telephone line for the keys to be activated.

Breaking alarm button is default setting for the Fält EC II+. In order to enter programming mode, when the Fält EC II+ is connected to a breaking alarm button it is necessary to press the 0 key and the alarm button simultaneously. Should the Fält EC II+ be connected to a closing alarm button or no alarm button at all, it is sufficient to press only the key 0 to enter programming mode. Note that the time delay for activation of programming mode is the same as the selected time delay for the alarm button.

An alternative way to enter programming mode is to remove the telephone wire and DC/DC connector, press P and keep it pressed while reconnecting the telephone wire. After about 10 seconds you will automatically enter programming mode.

The LED will flash as long as the Fält EC II+ is in programming mode. Programming mode is deactivated automatically after 30 ”idle” seconds (no key pressing). Note that some exchanges (mainly ISDN) sometimes disconnect the lift phone after a shorter time. All programming must then be done at a different location. Normal alarms are not affected by this.

You may also deactivate it manually by pressing:

P ✳ P

7.1.2 Reset of all settings

If the lift phone is moved to another building or if the alarm numbers are changed or if the lift phone has been incorrectly programmed, the best thing to do may be to simply delete all the old settings.

Reset (delete) all settings by pressing (in programming mode):

P ✳ 9 9 0 P

7.1.3 Input of alarm numbers

For connection to an alarm centre, the phone numbers and ID numbers specified by that alarm centre must be used. The ID number tells the alarm centre which lift and which building the alarm comes from. ***Note that if the alarm receiver is not a twenty-four-hour manned alarm centre, it is important to enter more numbers!***

The lift phone is programmed in the same way independently if it will call to an alarm central or a telephone/mobile. An ID number must be programmed independently if the alarm call should be made to an alarm central or to a telephone.

1. If required, reset all old settings:
   P * 9 9 0 P

2. Enter phone number for alarm receiver 1:
   P  <Area code + telephone number (max 20 digits)> P

3. Enter ID number for alarm receiver 1:
   P  <ID-number (max 10 digits)> P

4. Enter phone number for alarm receiver 2:
   P  <Area code + telephone number (max 20 digits)> P

5. Enter ID number for alarm receiver 2:
   P  <ID-number (max 10 digits)> P

For alarm receivers 3 to 6, use the keys:
S 3 S, S 4 S, S 5 S and S 6 S instead  of under item 4 above.

These numbers automatically get the same ID number as alarm receiver 1.

NB! Do not forget to test the function by sending a test alarm.

If no ID number and/or telephone number have been programmed, a short signal only will be heard in the loudspeaker when an attempt is made to send a test alarm.

7.1.4 Closing alarm button function

Breaking function is default. If the alarm button has closing function, the lift phone must be programmed accordingly by programming:

P * 0 2 0 P

Reset to breaking function by pressing:

P # 0 2 0 P

7.1.5 Test alarm to test the installation

After completed installation, the lift phone must be tested with a test alarm. With the keypad on the back of the phone, you may check that the alarm reaches secondary receivers, too.

1. Press the alarm button in the lift cage and check that the alarm reaches alarm receiver 1.

2. Check that the alarm reaches alarm receiver 2 by pressing (in programming mode):
   P [2] # P

3. If there are more alarm receivers, test them by substituting [2] in the sequence above by S 3 S , S 4 S etc.

Note that the alarm is transmitted 1 minute after completion of programming mode.

7.2 More available functions

7.2.1 Change of time delay for alarm button

You can change the time that the alarm button must be pressed down before an alarm is activated. The default time is 4 seconds, but this time may be changed to between 2 and 30 seconds. Note that the selected time must always be shorter than the time posted next to the alarm button in the lift.

P * 0 5 3 * <Time in seconds (02–30)> P

Note that the time always must be entered with two digits. Also note that it is the delay before activating that is programmed which means it will take additionally about two seconds before the actual call is made.

7.2.2 Connection via telephone exchange

If the lift phone is connected to an extension in a telephone exchange, the exchange must issue a dialing tone before it will be possible to dial the alarm number. This is usually achieved by dialing a zero from the telephone and then waiting for the dialing tone. Fält EC II+ handles this by having the alarm number start with a zero and an asterisk. The asterisk after the zero makes the lift phone wait two seconds for a dialing tone. The waiting time is increased if you press * two or more times. Every pressing increases the waiting time by 2 seconds.

The primary alarm number, for example, is programmed as follows:

P [1] 0 * <Area code + subscriber number> P

7.2.3 Activation of automatic test alarm

This function calls a test alarm receiver to check the connection. Note that test alarm shall only be programmed if the function has been ordered at the alarm receiver. When the test alarm function is active the first test alarm is sent 2 minutes after exiting programming mode. After that the test alarms is sent every n*24 hours where n is the test alarm interval in days. Note that the lift phone counter is reset at every time programming mode is entered and when the power is disconnected from the lift phone.

1. Select the required test interval: 1 to 9 days. (Use a digit between 1 and 9.)
   P * 0 8 0 * <Days (1 – 9)> P

2. Enter the telephone number of the test alarm receiver
P ✳ 3 0 0 ✳ <Area code + telephone number (max 20 digits)> P

3. Enter alarm code for the test alarm:
P ✳ 3 0 1 ✳ <Code (max 10 digits)> P

4. To check the test alarm function:
P ✳ 3 0 0 P

When testing a test alarm all communication tones (DTMF) are played out in the lift phone speaker which makes it possible to hear that the test alarm is being transmitted. Note that the test alarm is dialed out 1 minute after exiting of programming mode.

Press the following sequence to delete the function automatic test alarm:

P # 0 8 0 P

If a test alarm is failed the next attempt is done after 10 minutes. Totally 10 attempts are done.

7.2.4 Answering function

It is possible to make a telephone call the lift and have a conversation with the trapped person. Normally this function is on but it can be deactivated.

1. Press the following sequence to deactivate the function:
P # 1 4 0 P

2. Press the following sequence to activate the function:
P ✳ 1 4 0 ✳ 1 P

With two or more Fält EC II+ on the same telephone line, one of them is programmed as the master with ID number ”1”. The others are coded with their individual number (2-6) by replacing the digit 1 with the corresponding digit.

Example: P ✳ 1 4 0 ✳ 2 P for lift phone 2 in the chain.

For best sound quality all lift phones should be connected in series, not in parallel. The last lift phone in the series is given identity ”1”. A total of maximum six lift/emergency phones may be connected on the same telephone line.

7.2.5 Alarm mode

If the alarm mode function is active the Fält EC II+ can only receive incoming calls for 6 hours after the alarm was called out. After this time the lift phone will be closed for incoming calls until a new alarm is triggered. To activate the alarm mode the following conditions must be fulfilled:

- Alarm mode function is programmed
- A lift alarm has been called out

The active alarm mode can only be disabled by the phone, which receives the lift alarm, or from the phone, which calls to Fält EC II+. See section *Alarm receiving.*

Alarm mode function is programmed with:

P ✳ 1 4 1 ✳ 1 P

Where “1” is the identity of the lift from 1 - 6. Alarm mode function is disabled with:

P # 1 4 1 P

The active alarm mode is automatically disconnected after 6 hours but will be extended with 6 hours if a new speech connecting alarm is made or if a call is made to Fält EC II+ during this interval.

7.2.6 Busy line function

Busy line function means that if several Fält EC II+ is sharing the same telephone line a busy tone is played out in the speaker if the line already is in use. A new dial out attempt is done automatically after 60 seconds. Press the following sequence to activate the function:

P ✳ 2 0 0 P

And the following to deactivate the function:

P # 2 0 0 P

The function needs a line voltage of minimum 20 VDC to work. If the line voltage is below this a separate telephone for each Fält EC II+ is needed.

7.2.7 Battery alarm receiver

In normal cases the 1st. alarm receiver is used as battery alarm receiver together with alarm code 1. It is possible to choose to send all battery alarms to a dedicated battery alarm receiver with

P ✳ 3 1 0 ✳ <Area code + telephone number (max 20 digits)> P

Enter ID-number for battery alarm with:

P ✳ 3 1 1 ✳ <ID-number (max 10 digits)> P

Push following sequence to finish sending all battery alarms to a dedicated battery alarm receiver.

P # 3 1 0 P

7.2.8 Simplified acknowledge

With this function it is possible to simplify the alarm receiving procedure when using a standard telephone as an alarm receiver. The function is activated with:

P ✳ 3 2 0 P

and deactivated with

P # 3 2 0 P

When the function is active, all numeric buttons (0-9) on the phone will acknowledge the alarm and the button * disconnect the alarm call. Each time any of the buttons 0-9 is pressed on the telephone the time until time-disconnect is reset to 180 seconds. The button # has no function at all. There will be no possibility to change to simplex mode.

7.2.9 Disconnection of acknowledgement

It is possible to completely disconnect the acknowledgement function. It means that receiving phone only have to lift the receiver. Disconnection will be made when the receiving phone pushes * or replaces the receiver. Maximum conversation time is 180 seconds and cannot be extended. Manual speech switchover does not work.

Note! The lift phone will only make one attempt and it will only call the first alarm receiver. If the telephone line is occupied a new alarm must be made after the call has timed out after about 180 seconds. The function is activated with:

P * 3 2 1 P

The function is disabled with:

P # 3 2 0 P

7.2.10 Change of alarm flashing sequence

When the alarm button has been activated and an alarm is registered by the lift phone, the LED in the Fält EC II+ become yellow. When the alarm is acknowledge the LED becomes green. This flashing sequence is according to EN81:70.

There is an option to change to a flashing sequence which indicates a registered alarm with flashing green light and acknowledged alarm with fixed green light. This is done with the following programming sequence:

P # 5 1 0 P

Return to the yellow/green flashing sequence by programming:

P * 5 1 0 P

7.2.11 Programmable alarm type

The normal alarm type 10 (0Ah) may be mapped to another alarm type. The function is activated with the keyboard sequence:

P * 6 0 0 * <**XX**> P

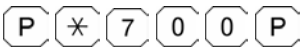
where **XX** represents an alarm type between 00 and 99. To restore the alarm type to the default value, enter:

P # 6 0 0 P

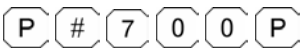
Note that Fält EC II+ always assumes that the programmed alarm type is speech-connecting.

7.2.12 Unit ID

When a standard telephone is used as alarm receiver Fält EC II+ can simplify the identification of the lift phone by sending out beeps. It can be useful when many Fält EC II+ are sharing the telephone line and number presentation is used for identification. It is then impossible to know from which of the up to 6 lift phones the alarm came from. The function is activated with:



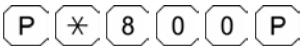
and deactivated with:



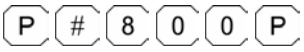
When the function is active, the Fält EC II+ will replace the normal beep sequence with a start beep, followed by sequence of beeps with another frequency. The number of beeps in the sequence is controlled by the first digit in the alarm code. If the alarm code is 345678 the lift phone will start with a beep and the play out 3 beeps with a different frequency. If the first digit is zero, 10 beeps will be played.

7.2.13 Info alarm

A simple info alarm function can be activated by programming:



and deactivated with



When the info alarm function is active, the last sequence alarm receiver is converted to an info alarm receiver. 60 seconds after an acknowledged alarm Fält EC II+ will call alarm receiver 6 and send an operating alarm of type 89 (59h) together with the first alarm code.

Observe that if the main alarm was never acknowledged, no info-alarm will be sent out. Also this function will not dial out an info-alarm after battery alarms or test alarms.

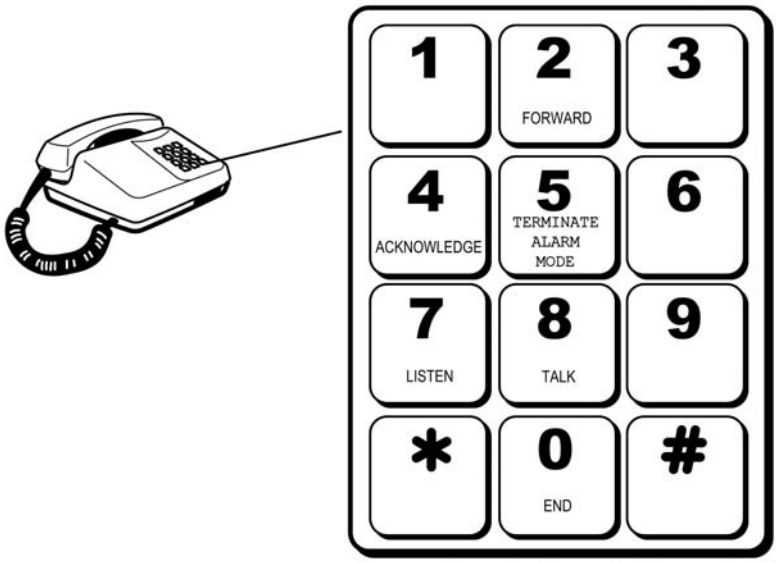
8 Alarm receiving

Note that the lift phone should be connected to an alarm centre. EN 81:1–2 stipulates connection to a twenty-four-hour manned telephone. By way of exception, it is possible to use an ordinary telephone or a mobile phone as alarm receiver. The instructions below refer to alarm receiving with an ordinary telephone. In an alarm centre, the line is usually connected to a computer, which automatically registers the alarm source, on the basis of the codes transmitted by the lift phone.

All tone selection telephones (units with the keys * and #) can function as simple alarm receivers. The telephone keypad is then used to control the alarm receiving and acknowledge the alarm.

Note that telephones used for alarm receiving should be marked in a way that makes everyone aware of the possibility of alarm calls. In addition, special functions for specific telephone keys should be clearly marked.

You cannot be sure that a manual will be readily available in case of an alarm. The most important key to learn is 4, used to acknowledge the alarm and set up the call.



8.1 Alarm call

An incoming alarm call is characterized by an oscillating tone (”chirp”) heard in the receiver. First tone is heard after 3 seconds and next every 3:rd second. **It is important that everybody is aware of this. Therefore, note that all alarm receivers should practice the alarm handling procedure.**

1. Acknowledge the alarm with **4, ACKNOWLEDGE**. A voice communication call is then set up; speech exchange is automatic, as in a normal telephone call.

2. If the automatic speech exchange is not satisfactory, you can change to manual speech exchange **8, TALK** and **7, LISTEN**. Revert to automatic speech exchange by pressing **4, ACKNOWLEDGE**.

3. If the function alarm mode activated and the product is in active alarm mode, you can finish it by pressing the key **5, TERMINATE ALARM MODE**. The call is automatically disconnected.

4. A call will be disconnected automatically three minutes after the last key pressing. With thirty seconds to disconnection, a warning tone will be heard. To prolong the call, press **4, ACKNOWLEDGE**.

5. If you want to forward the alarm to the next alarm receiver, press **2, FORWARD**. The alarm is then closed, and the lift phone will call the next programmed alarm receiver.

6. End the alarm call by pressing **0, END.** If the alarm is ended with time disconnection, replaced receiver, or lost contact and either *Simple phone acknowledge* or *Disconnection of acknowledgement* is programmed the Fält EC II+ will make a new alarm call to the next programmed alarm receiver.

If the alarm receiver has not answered within 60 seconds the Fält EC II+ will automatically switch to the next alarm number. The lift phone waits 60 seconds before next alarm number is dialed.

8.2 Calls to a lift phone

If answering function is activated, or if alarm mode function is programmed, and Fält EC II+ is in active alarm mode, it is possible make a call to Fält EC II+ from a tone dialing phone or a mobile according to the following:

1. Dial the number to the lift phone.

2. After four ring signals the first Fält EC II+ answers and sends a 3-tone.

3. Press # and ID-number to the wanted lift phone (1-6). For instance #2 for lift phone 2 in the chain. Note that #1 must be pressed by the caller even if only one lift phone is mounted.

4. Press 4 to activate voice connection.

5. Press 5 to terminate a possible active alarm mode. Then the call is disconnected.

6. Press 7 to listen.

7. Press 8 to speak.

8. Press 0 to disconnect the call

9 Troubleshooting

9.1 Lift phone cannot be programmed

No power to the lift phone. For programming to be possible, the terminal strip marked ”TELE” must be connected or external voltage connected via the DC/DC converter.

9.2 Lift phone unable to call up

1. Note that both alarm receivers and alarm code must have been entered. Otherwise, the lift phone will emit a tone burst when an attempt is made to connect an alarm.

2. Check the telephone line. Measure the line voltage on the terminal strip connections marked ”TELE” and that it shows minimum 32 VDC. See more under section Technical Data.

3. If it takes long time before the dial tone is heard, the lift phone might start to early dialing out the telephone number and thereby causing problems. Try to activate the dial tone detection function with: P * 0 4 0 P

9.3 Lift phone calls up automatically at power on

The lift phone’s alarm button has closing function but the Fält EC II+ is set for an alarm button with breaking function (or vice versa). See *Programming* section.

9.4 Whistling sound from loudspeaker (at alarm sequence)

If there is a whistling sound, when voice communication is set up during an alarm, this may be due to acoustic feedback. Acoustic feedback may appear if the microphone and the loudspeaker are installed too close to a flat surface, causing the sound to rebound between them. See section *Installation instructions*.

9.5 Disturbance during voice communication

Install a separate suspension cable. In extreme cases, a screened suspension cable may be required.

9.6 Technical support

Further technical supports for lift phone Fält EC II+ is available from your local distributor or via Fält Communications, see section *Contact information*.

10 Technical data

Supply voltage: (Single mounted)	None, if line voltage is higher than 32 VDC. If line voltage is between 20 VDC and 32 VDC an external power supply is required. This level can be even lower if the lift phone is mounted on an internal exchange (PABX). By mounting the attached jumper Fält EC II+ will work without external power supply down to 22 VDC. If also an external power supply is connected together with the jumper the lift phone will work down to 12 VDC. When the jumper is mounted Fält EC II+ is not allowed to be connected to the public switched telephone network (PSTN).
Supply voltage: (2-6 units on the same line)	If several lift phones are connected to the same telephone line an external power supply always is required for each unit. The line voltage must also be higher than 20 VDC because of the line detection function of occupied line. See more under section *Busy line function*
Current consumption:	At rest: 25-45 uA Nominal: 12-60 mA Ext. power supply: 4-16 mA
Indications:	Yellow and green LED during alarm Sound and light indication when programming
Test alarm:	1 time/day up to once every 9 days (selectable on/off)
Alarm receiver types:	Contact your local distributor for information about alarm centrals that can handle CPC protocol. All tone selection telephones, including mobile phones, can also be used as alarm receivers
Protocol:	CPC
Speech exchange:	Duplex or simplex
Signaling:	DTMF
Calling:	Tone selection
Answering function:	Automatic (selectable on/off)
Casing:	Stainless sheet steel 1.5 mm. ”Vandal-proof”
Dimensions:	HxWxD: 100 x 100 x 23 mm
Weight:	235 g

11 Programming Key Map

In order for the emergency telephone to be programmed it has to be:

1) connected to the telephone line
2) be connected to the alarm button, and
3) be set to programming mode. It is assumed that an alarm button with breaking function is used.

Programming can be initiated approximately 20 sec. after the telephone has been connected to the telephone line. Upon completion of each programming sequence a 4-tone confirms that the telephone has accepted the programming. If no button is pushed during a time lapse of 30 sec. programming mode is automatically deactivated.

Below follows an overview of all programmable functions in Fält EC II+. In the column to the right are the possible normal values marked with “X” or shown with the actual value.

No.	Programming sequence	Function	Def
1.	P # P	Deactivation of programming mode	
2.	P [1] < Phone No. > P	Programming of phone number to primary alarm receiver. Max 20 digits	
3.	P [2] < Phone No. > P	Programming of phone number to secondary alarm receiver. Max 20 digits	
4.	P [2] # P	Test of secondary alarm receiver	
5.	P [Code 1] < Alarm code 1 > P	Programming of alarm code 1. Max 10 digits	
6.	P [Code 2] < Alarm code 2 > P	Programming of alarm code 2. Max 10 digits.	
7.	P S < 3-6 > S < Phone No. > P	Programming of phone numbers to alarm receiver 3 to 6. Max 20 digits	
8.	P S < 3-6 > S # P	Test of alarm receiver 3 to 6.	
9.	P * 0 2 0 P	Sets alarm button input to Normally Open	
10.	P # 0 2 0 P	Sets alarm button input to Normally Close	X
11.	P * 0 4 0 P	Activation of dial tone detection	
12.	P # 0 4 0 P	Deactivation of dial tone detection	X

No.	Programming sequence	Function	Def
13.	P ✳ 0 5 3 ✳ < 1-30 > P	Delay time to activate alarm button. Unit in seconds.	4
14.	P ✳ 1 4 0 ✳ < Lift 1-6 > P	Activation of answering function	1
15.	P # 1 4 0 P	Deactivation of answering function	
16.	P ✳ 1 4 1 ✳ < Lift 1-6 > P	Activation of active alarm mode	
17.	P # 1 4 1 P	Deactivation of active alarm mode	X
18.	P ✳ 2 0 0 P	Activation of busy line function	
19.	P # 2 0 0 P	Deactivation of busy line function	X
20.	P ✳ 0 8 0 ✳ < 1-9 > P	Time between test alarms. Unit in days.	
21.	P # 0 8 0 P	Deactivation of test alarm function	X
22.	P ✳ 3 0 0 ✳ <Phone No > P	Phone number to test alarm receiver. Max 20 digits	
23.	P ✳ 3 0 0 P	Test of test alarm	
24.	P # 3 0 0 P	Deactivation of test alarm function	X
25.	P ✳ 3 0 1 ✳ < Code > P	Alarm code to test alarm receiver. Max 10 digits	
26.	P ✳ 3 1 0 ✳ < Phone No > P	Phone number to battery alarm receivers. Max 20 digits.	
27.	P # 3 1 0 P	Deactivation of battery alarm receiver	X
28.	P ✳ 3 1 1 ✳ < Code > P	Alarm code to battery alarm receiver. Max 10 digits	
29.	P ✳ 3 2 0 P	Activation of simple phone acknowledge	
30.	P # 3 2 0 P	Reset of normal acknowledge sequence	X
31.	P ✳ 3 2 1 P	Disconnection of acknowledgement function	
32.	P # 3 2 0 P	Reset to normal acknowledge sequence	X

No.	Programming sequence	Function	Def
33.	P ✳ 5 1 0 P	Activation of yellow/green LED sequence at alarms	X
34.	P # 5 1 0 P	Deactivation of yellow/green LED sequence	
35.	P ✳ 6 0 0 ✳ <Alarm type> P	Activation of programmable alarm type for lift alarm. Can be from 00d to 99d	10d
36.	P # 6 0 0 P	Reset of alarm type for lift alarm to 10d	X
37.	P ✳ 7 0 0 P	Activation of unit ID	
38.	P # 7 0 0 P	Deactivation of unit ID	X
39.	P ✳ 8 0 0 P	Activation of info alarm	
40.	P # 8 0 0 P	Deactivation of info alarm	X
41.	P ✳ 9 9 0 P	Reset all settings to factory mode	X

12 Contact information

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