FÄLTCOM™

LTE Gateway 202241

User manual 162241

04 April 2025 V1.0G

Table of Contents

Declaration of conformity

We, Exreme Security Solutions AB, Box 326, SE-971 09 Luleå, Sweden. Hereby declare that this product, a voice gateway identified as Fältcom LTE Gateway 202241, conforms with the following directives: RED 2014/53/EU, RoHS 2011/65/EU, RoHS3 2015/863/EU.

The product complies with the following standards/norms:

EN 62368-1(2020) +A11(2020)	
EN 62311(2020)	
EN 55032(2015) +A11(2020)	Edition 2, Class B
EN 55035(2017) +A11(2020)	Edition 1
ETSI EN-301 489-1	V2.2.3
ETSI EN-301 489-52	V1.2.1
ETSI EN-301 511	V12.5.1
ETSI EN-301 908-1	V15.2.1
ETSI EN-301 908-2	V13.1.1
ETSI EN-301 908-13	V13.2.1
EN 63000:2018	

Umeå, Sweden, March 2025

Robert Eklund, Commercial Product Manager
Exreme Security Solutions AB

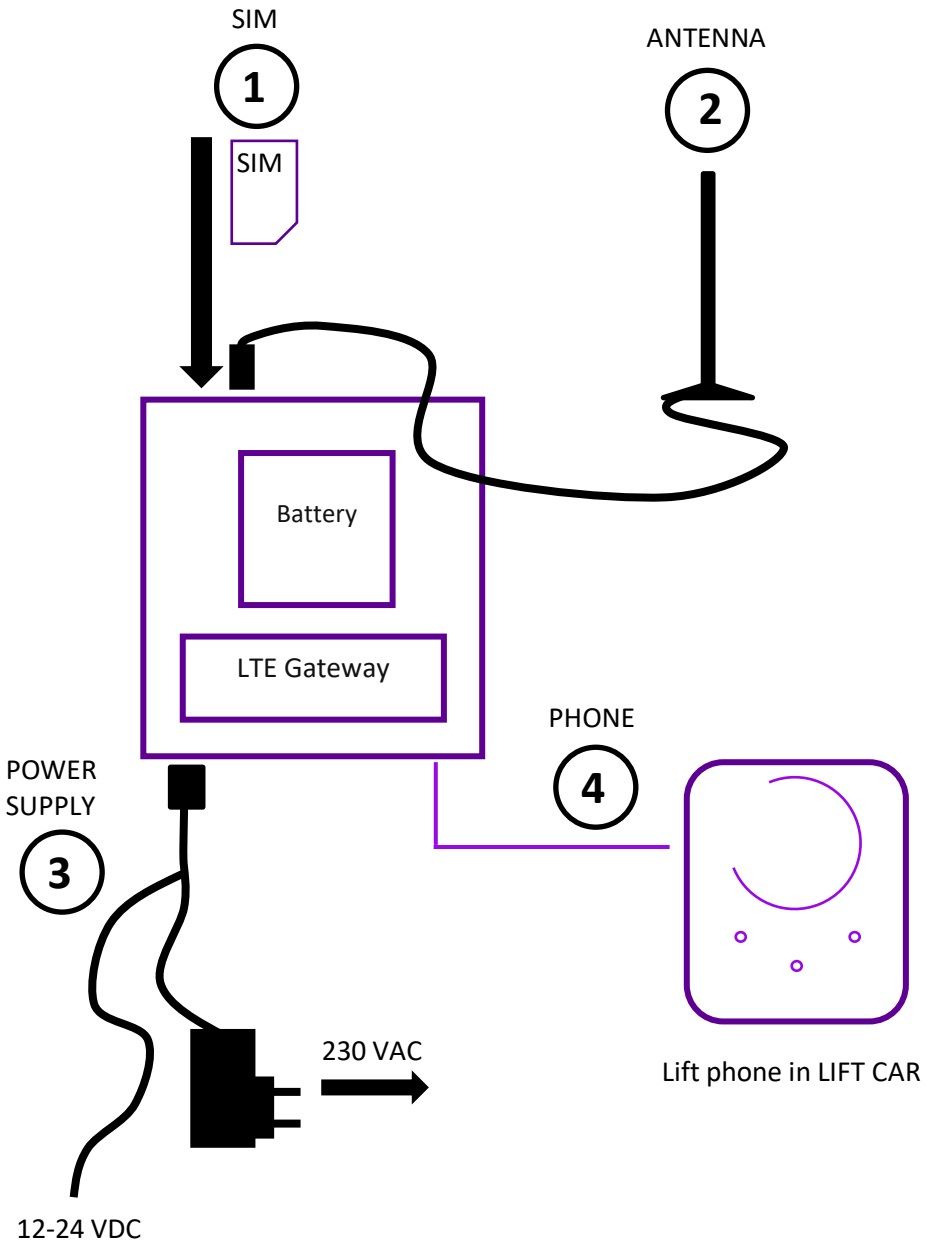
Content of delivery

- LTE Gateway, art no. 202241
- Antenna SMA, magnet foot, art no. 112322
- LTE Gateway Manual (this document), art no. 162241
- Power adapter 230VAC/12 VDC, art no. 252010 (if ordered together with gateway)

Installation overview

Connection

Insert the SIM card, connect the Antenna, the lift phone and Power.



Installation

Find a suitable place to mount the LTE gateway following these guide lines:

- Make sure the LTE network coverage is good before the LTE gateway is installed. Place the Antenna near a window if possible.
- Make sure the LEDs are visible.
- Make sure there is a power source, 230 VAC or 12-24 VDC are within reach.
- Connect the antenna. Place the antenna as far away from the Gateway as possible. The antenna can be placed on any magnetic metal surface.
- Connect the Lift phone to the Phone input. See Flex manual for further details.

PIN code

Choose whether the PIN code should be activated or deactivated.

PIN code deactivated

Use a mobile phone / other equipment to deactivate the SIM card´s PIN code.

PIN code activated

The PIN code must be set to “1234”. Use a mobile phone or other equipment to set the code. At startup the LTE Gateway will automatically change the PIN code to a random 4-digit code to prevent the SIM card from being used on any other device. If the SIM card is to be used later, use the PUK code to unlock the SIM.

Startup

Start the LTE Gateway:

- Gently insert the SIM-card into the LTE gateway as shown in the pictures above. Make sure the cut corner of the SIM is on the left side and the connector pads facing down.
- Connect the power cable. The startup might take up to 60 seconds before the LTE Gateway has established a connection with the LTE network. For information on how to understand the LED indications, please see page 5.

Turn off the LTE Gateway

- Remove the DC power connector from the LTE Gateway.
- Push the RESET button with a short push to turn the unit off.

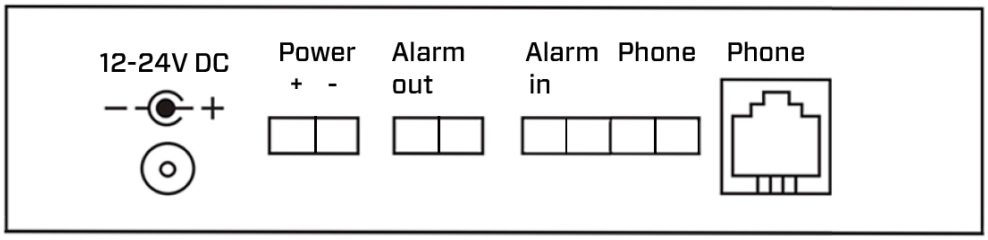
- Wait for 20 seconds for the gateway to power off.

Change SIM card

If the SIM-card needs to be changed, the new SIM-card must have “1234” as PIN-codes or have the PIN-code deactivated.

- Turn off the LTE Gateway, remove the DC power connector from the LTE Gateway.
- Push the RESET button with a short push to turn the unit off.
- Remove the old SIM and insert the new SIM.
- Connect the power cable.

Back panel connectors and indications



Type	Details
12-24V DC	**Terminal** **Power** **+** + 9-28 VDC - GND
Power	Internally connected in parallel with 12-24 V DC input.
Alarm out	Normally open relay.
Alarm in	Input detecting open or shorted circuit
Phone	Internally connected in parallel with RJ11. Connection to standard telephone device: PHONE 1 1 **No** **PHONE (RJ11)** 1 2 La 3 Lb 4

Front panel connectors and indications

Reset	Button
Signal	LED indicator
Network/SIM	LED indicator
Power/Battery	LED indicator
Phone	LED indicator
Antenna	SMA Connector for the antenna
SIM	SIM card slot for insertion of SIM card

LED indicators

LED	Status	Indicates
Signal	OFF	No network available
	Red	Marginal network signal
	Red and Green	Good network signal
	Green	Very good network signal
Network/SIM	OFF	No network connection
	Red	SIM error
	Green	Connected to mobile network
Power/Battery	Green	Normal status running on DC power
	Red	Backup power in use
	Flashing Red	Battery Alarm
Phone	OFF	Phone device is On-hook (Normal status)
	Flashing	Ringing signal
	Red	Phone device is Off-hook (line busy)

Reset

RESET type activation	Power supply	Result
Short push	External	Reboot of LTE Gateway
Short push	Battery	LTE Gateway is switched off within 20 seconds
Hold button for >20 sec	External	All settings are reset to factory settings. This is indicated by the LED´s

Note: Factory reset also changes the PIN-code back to the default "1234" if PIN code is in use, this may cause the SIM-card to be locked if a SIM-card is mounted inside the LTE Gateway.

Battery

The battery is supervised in two different ways. The first "low battery voltage indication" is activated when the battery voltage is too low for any reason. The second is a "battery fault alarm" activated when the battery capacity is too low, and it is time to replace the battery.

In case there is a battery alarm/low battery voltage indication, the LTE Gateway will change the dial tone. The Lift phone will detect the new dial tone and send a battery alarm to the alarm receiver. See page 10 for information on how to turn the Dial tone battery alarm off.

Low battery voltage indication

A "low battery voltage indication" is activated if the battery voltage drops below 4.4 VDC when the unit is powered by the battery.

The indication is sent by SMS. Please view SMS functionality for information on settings.

If the unit is powered by the battery and the battery voltage drops below 4.0 VDC the LTE Gateway will shut off to prevent permanent damage to the battery. These voltage levels are not programmable.

Battery fault alarm

A "battery fault alarm" is shown by a red flashing LED, see page 5, and by a change of the normal dial tone, see page 10.

The first battery test is made after 48 hours and the following every 24 hour. During a battery test a load is connected to the battery and the battery voltage measured. A battery test lasts for 5 minutes and if the voltage drops below 4.4 VDC during this time a "battery fault alarm" is activated.

A battery test will not be performed when the LTE Gateway is powered by the battery. An active "battery fault alarm" is automatically reset after a passed battery test.

Normally the battery will last 2-4 years but this is very much depending on the surrounding temperature and how much the battery is used. When the battery is failing, simply replace the battery with an equivalent type - replacement batteries are available from Telia sales. Telia art no.132004 batteries are designed with a wider temperature range and approved to be used with the product. Other types of batteries might damage the LTE Gateway. If other supplier of batteries is used Telia cannot guarantee functionality as the function may not be as good.

A polyswitch fuse is integrated in the battery package to prevent it from damage in case of high temperatures. The fuse is automatically reset when the temperature is normal again.

Intercom

Connect a regular phone to RJ11 jack on gateway and Flex DUO to phone quick connect terminal. The Flex DUO needs to have ID programmed (ID 1-9) with P*140*ID P and intercom function activated with P*530 P.

Note! Flex DUO needs external DC power supply.

To use the intercom: on the regular phone go off hook and enter #ID on phone for example #1 for flex number one and it will connect, then press 4 for duplex. Remember to press 0 to make flex hang up after the call.

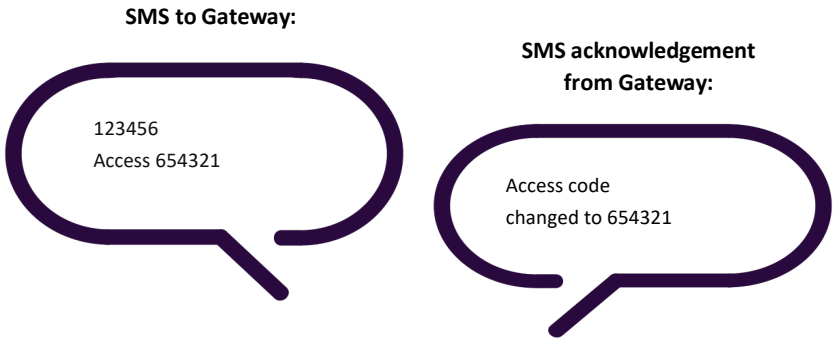
NOTE: Can not be combined with hotline.

SMS functionality

Note: 123456 is representing the SMS access code which is by default the same as the serial number.

Change access code

To set an additional SMS access code besides serial number:



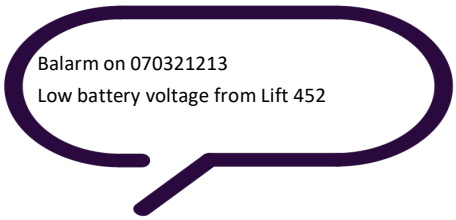
The configured SMS access code can be removed with command Access reset.

Low battery voltage indication and Battery fault

It is possible to configure the Gateway to send a SMS when a Low battery voltage indication or battery fault occurs, the functionality is activated by sending an SMS to the LTE Gateway. The SMS must include the telephone number and an alarm text. The SMS is not case sensitive. The Gateway will acknowledge a correct programming by returning a SMS.

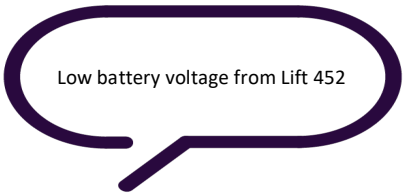
SMS to Gateway:

SMS acknowledgement from Gateway:



In this example a Low battery voltage indication will generate the following:

SMS from Gateway:



It is possible to configure Gateway to send a reset SMS (Bares) when the battery voltage gets above the set voltage level:

SMS to Gateway:

SMS acknowledgement from Gateway:

In this example when the power to the Gateway is re-established and the battery voltage is above the set voltage level the following is sent from the Gateway:

SMS from Gateway:

Both functions described above are switched off by sending the following to the LTE Gateway:

SMS to Gateway:

SMS acknowledgement from Gateway:

The Battery replaced SMS (Bares) function described above can be switched off separately by sending the following to the LTE Gateway:

SMS to Gateway:

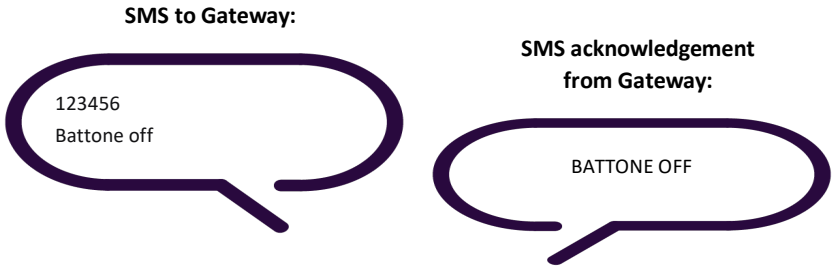
SMS acknowledgement from Gateway:

Dial tone battery alarm

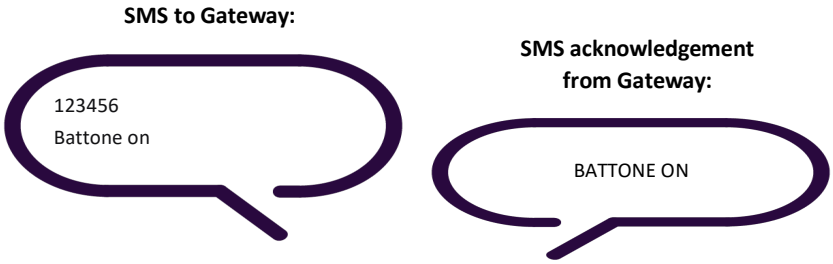
The Dial tone battery alarm to the lift phone, indicating a battery fault alarm, is default activated but can be turned off. In case the function is deactivated the LTE Gateway will always use normal dial tone when the line is taken off-hook.

The emergency alarm must be programmed accordingly in order to detect the battery fault alarm signal from the Gateway; please see the manual for the emergency alarm if that setting is available.

To deactivate the Dial tone battery alarm send the SMS below to the LTE Gateway. The Gateway will acknowledge a correct programming by returning a SMS:

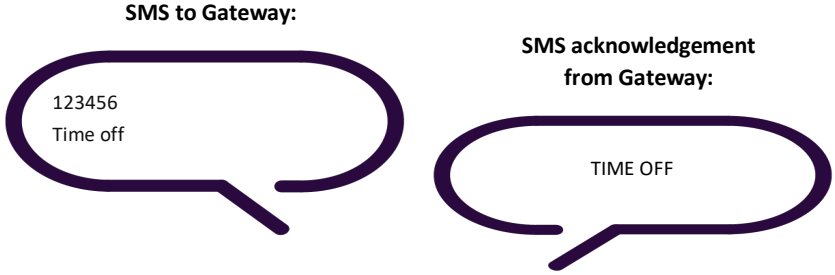


To reactivate dial tone (battery alarm/low battery voltage indication, dial tone) send the below SMS to the LTE Gateway. The Gateway will return an acknowledgement:



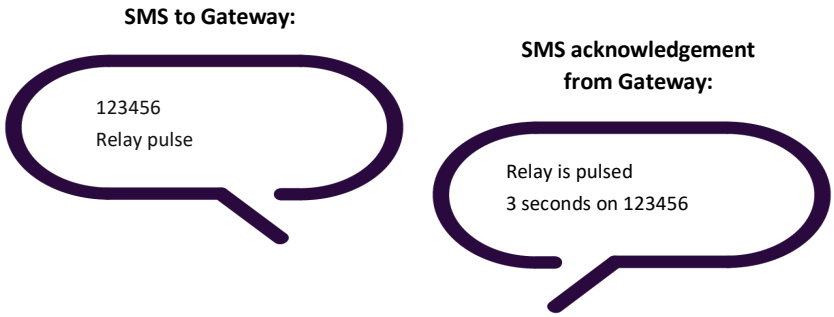
Sending current time to Flex DUO

The Gateway does transmit the current time to flex DUO after the flex goes on hook. This feature is enabled by default and can be turned off when used together with other devices. The time is used for logging purpose in flex DUO.



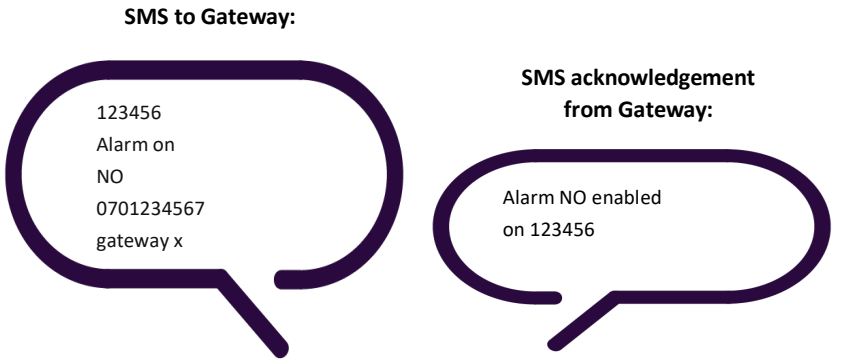
Relay control

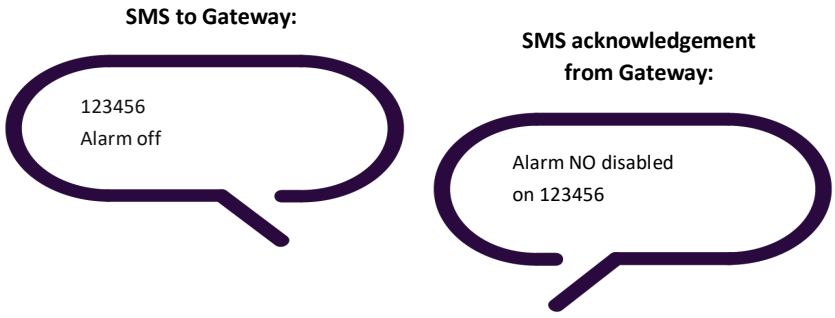
The Gateway has a relay that can be controlled by SMS. The relay can be set in state on, off or made to send a 3 second on pulse with the SMS commands on, off or pulse. See example below:



Alarm input

The Gateway has an alarm input that can trigger a SMS on status change, with SMS controlled settings: Alarm enable/disable, NC/NO, phone number, optional event text.





Hotline

Hotline is a function to make the gateway automatically dial a pre-programmed number when the connected phone goes off hook. To enable send a SMS：

SMS to Gateway:

123456
Hotline on
0701234567

SMS acknowledgement from Gateway:

HOTLINE ON
0701234567

To disable hotline:

SMS to Gateway:

123456
Hotline off

SMS acknowledgement from Gateway:

HOTLINE OFF

Status

Get the current status of the Gateway by sending a “Status” SMS. The SMS must contain the SMS Access code followed by a new line and the word Status. The default Access code is the 6 digits serial number.

If the request command (Status) is incorrect, the Gateway will answer “Request command not supported”. If the SMS is correct the Gateway will return an acknowledgement.

SMS to Gateway:

123456
Status

SMS acknowledgement from Gateway:

SN:2241230110123456
FW:0.0.3.3
S:87%
S H/L:84/94%
UT:450d21d22m
LC:0701234567
PWR:Battery
LRR:Net timeout(1)
Op:Telia
CID:25781258
LAC:65534
Line:On
LHoff:02d01h36m

Parameter	Description
SN	UID with last 6 digits representing serial number of the Gateway
FW	Firmware version of the Gateway
S	Current signal strength (signal strength in %)
S H/L	Highest signal during last 24h/lowest signal during last 24h since last restart.
UT	Uptime counter, presented in days, hours and minutes.
LC	Last called number, not saved in case of restart.
PWR	Current power source – Mains or Battery
LRR	Last restart reason
Op	Current operator in use, in text format
CID	Cell ID of the base station
LAC	Location area code of network cell
Line	Telephone line On-hook or Off-hook
LHoff	Time since last hook-off, presented in days, hours and minutes.

Technical Data

Parameter	Data
Size (L x B x H):	103 x 110 x 48 mm
Weight	481 g, with battery and antenna included
Protection class	IP 20
External power	10-28 VDC
Power consumption	At rest: 12V < 180mA, 24V < 95mA Ongoing call: 12V < 330mA, 24V < 160mA
Battery type	NiMH 4,8V 1250mAh
Battery power consumption	At rest: < 120 mA. Ongoing call: < 300 mA
LTE module	Telit LE910C1-EU
Antenna	50 Ohm, 2dBi gain, SMA-connector, 824–960 MHz/1710–2170 MHz
Line voltage on hook	48 VDC
Relay output	Normally open 100 mA maximum current
Polarity reversal	Yes
Operating temperature	+5 °C to +40 °C
Air humidity	30 % to 90 % RH
Tone indications	
Dial tone	425 Hz -10 dBm continuous
Dial tone battery alarm	425 Hz -10dBm. 1000ms ON / 250ms OFF / 250ms ON / 250ms OFF
Congestion tone	425 Hz -10dBm. 200ms ON / 200ms off / 200ms ON / 200ms OFF / 200ms ON / 600ms OFF
Ringing signal	25 Hz 40 VRms into 3REN. 1000 ms ON / 4000 ms OFF
Ring back tone	425Hz, 1000 ms ON / 4000 ms OFF
Busy tone	425Hz, 500 ms ON / 500 ms OFF
Connections	
Telephone	RJ-11 or quick connect terminals
Antenna connector	SMA
DC power supply input	DC Plug 2.1mm/5.5mm or quick connect terminals
Alarm input	Quick connect terminals
Alarm output	Quick connect terminals

Repair return procedure

Fältcom only accepts returns that have a valid RMA number. Please contact Fältcom support to receive a RMA number. All returns must then be sent well packed with freight pre-paid to our service address:

Fältcom
c/o Hajpa AB
Furuhedsvägen 29D
SE-952 31 KALIX, Sweden

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

Contact Information

Mailing address: Exreme Security Solutions AB, Box 326, 971 09 Luleå, Sweden
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