Gateway

NEU
VOICE OVER LTE 4G
inkl. 2G & 3G

Generates a power-failure-proof analogue telephone connection on a mobile phone basis

Design	**IP** Robust, water protected, wall mounting	**DIN** Compact, installation in control cabinet
4G Full	EA-LTE-IP-GATW Article-No 100.0802BL	EA-LTE-DIN-GATW Article-No 100.0812BL
4G Light	EA-LTE-IP-LIGHT-GATW Article-No 100.0801BL	EA-LTE-DIN-LIGHT-GATW Article-No 100.0811BL
3G Full	EA-UMTS-IP-GATW Article-No 100.0802BU	EA-UMTS-DIN-GATW Article-No 100.0812BU
3G Light	EA-UMTS-IP-LIGHT-GATW Article-No 100.0801BU	EA-UMTS-DIN-LIGHT-GATW Article-No 100.0811BU
2G	EA-GSM-IP-GATW Article-No 100.0802B	EA-GSM-DIN-GATW Article-No 100.0812B

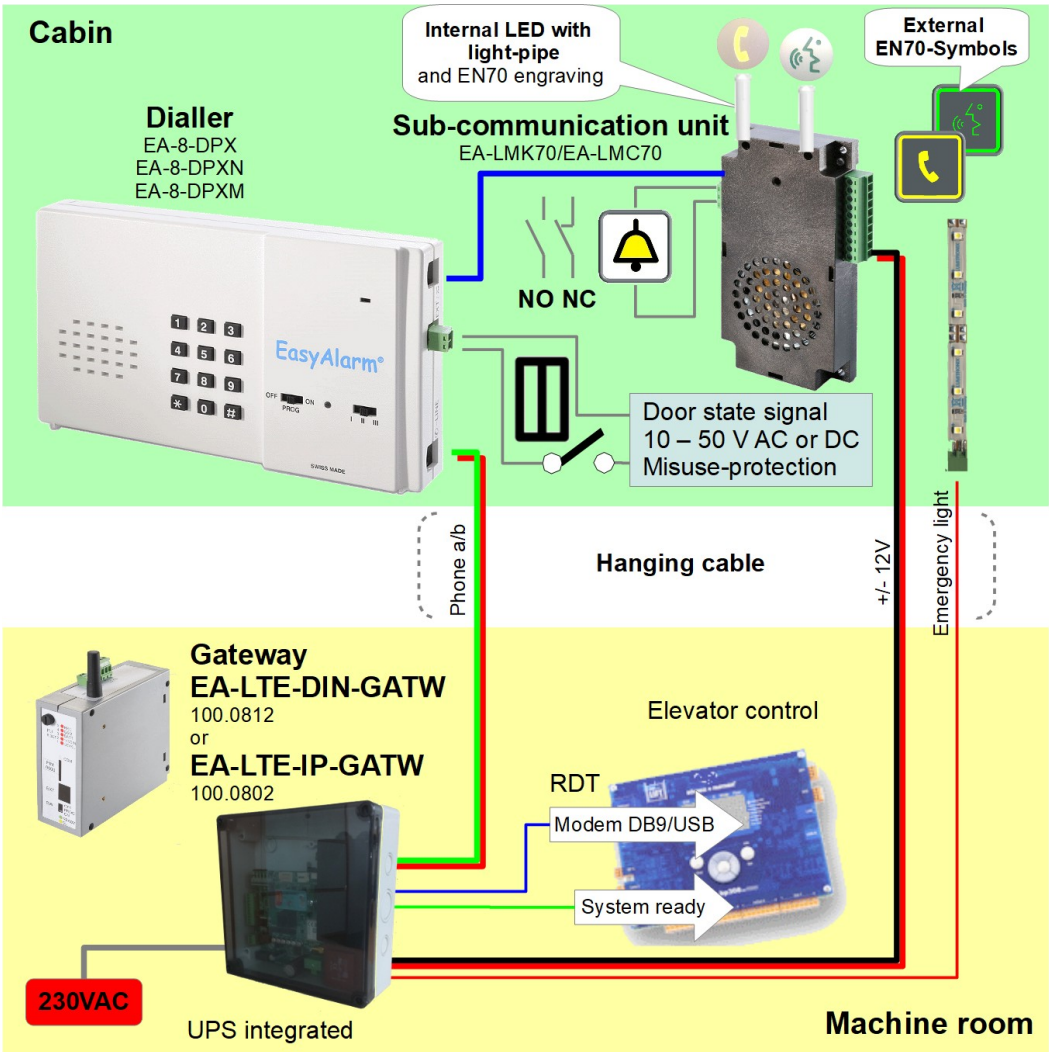
Support for the following networks:

4G: GSM, UMTS, LTE/VoLTE	850 / 900 / 1800 / 1900 / 900 (B8) / 2100 (B1)+ 800 (B20) / 1800 (B3) / 2600 (B7)
3G: GSM, UMTS	850 / 900 / 1800 / 1900 / 900 (B8) / 2100 (B1)+
2G: GSM	850 / 900 / 1800 / 1900

4813

Contents

1 Overview



The universal **EA-LTE-Interface** simulates the analogue telephone line (PSTN) for the alarm dialler (e.g. EasyAlarm, EXICALL) and is fully compatible with the protocols WinMOS®300, Point-ID.

- The emergency call over mobilenetwork is a cost effective **alternative to landline installation**.
- No costs for an **analogue landline**.
- You may **change the provider** at any time.
- The elevator can already be used during **construction**.
- Interface to connect to the elevator control (e.g. Böhnke+Partner, Kollmorgen, KW, L+L, Newlift, Rekoba, RST, Strack etc.) ☞ use as **Modem**.
- 4G: LAN / WiFi connection as accessory

Safety note

- The location of the Antenna **should be stationary** (e.g. in the machine room) in order that a stable reception is guaranteed.
- In case of an emergency call retro-fit (SNEL, ESBA), where no empty wires in the hanging cable are available, the EA-LTE-Interface can be located on top of the cabin, providing that the **reception is guaranteed for the entire cabin travel** (Simple reception diagnosis by SMS).
- If the reception is **inadequate or fails completely**, the elevator must **automatically be set out of order**: for example, command to the elevator control to move to the ground floor. Therefore the EA-LTE-Interface provides a relay contact (NO or NC).
- **Beware of using prepaid cards: in case of an emergency there might be no credit left. Better use a subscription or prepaid with topping up via auto reload**.
- **To ensure that the correct number is dialled even with roaming, the calling numbers of the dialler must be entered including the country code.**

- **Check battery and reception values with every maintenance ☞🕮Fehler: Verweis nicht gefunden.**

2 Design IP

2.1 Specification

Article-No: *100.0801BL (EA-LTE-IP-LIGHT-GATW)*
100.0802BL (EA-LTE-IP-*GATW*)

Power supply: 230 VAC / 50 Hz / max. 15 W
Standby: 3.5 W
+ 2.5 W during connection
+ load on 12VOUT
+ load on EL
+ load in SIR
+ 5 W during battery charge (max)

Backup battery: 12 V / 1.2 Ah (100.0880)
Typ.charging time: 8 h

Dimension (L x W x H): 182 x 180 x 63 mm
Housing: ABS, IP67
Weight: 650 g (without battery)

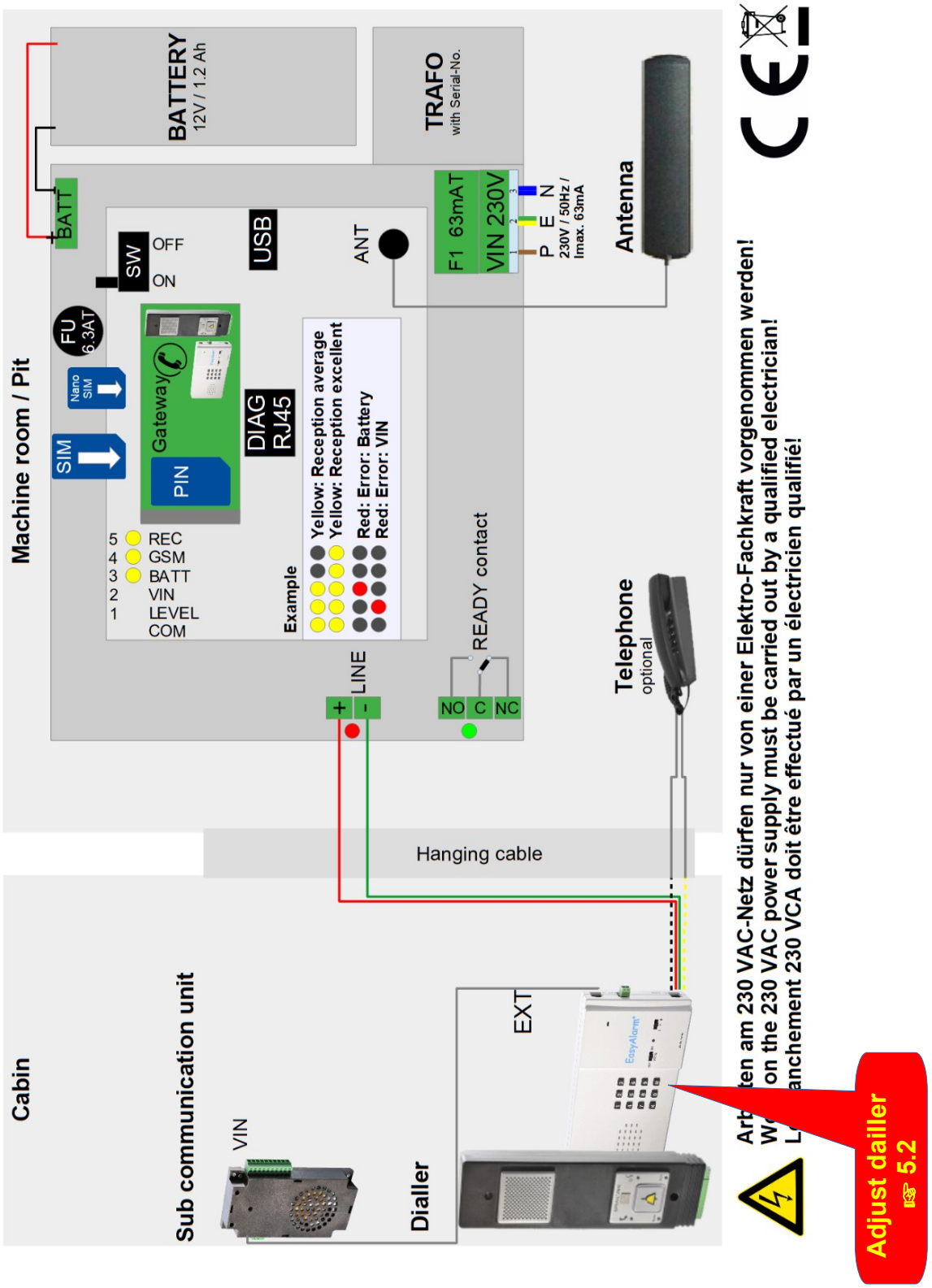
2.2 Connectors

These gray marked elements do not exist in the LIGHT version

	Comment	
ANT	Antenne SMA	Antenna
ALM	*Alarm-input*	*1,2: active if signal 10 .. 50 V AC or DC*
BATT	Connector for 12 V / 1.2 Ah battery	1: +BATT (red) 3: -BATT (black)
EL	*Emergency light output* *12 V / max 300mA*	*5: +* *6: -*
EXT	Data interface	For modem use
F1	Mains fuse	63 mA slow
FU	Battery fuse	6.3 A slow
LINE **LINE RJ12**	Analogue telephone line	9: +LINE 10: -LINE or RJ12
READY	Relay: Operation control: „System ready”	1: Normally closed contact (NC) 2: C 3: Normally open contact (NO)
SIM ***GATW SIM***	SIM-card holders	PIN:0000 PIN:1010 M2M-SIM-Card ☞ **Check label**
SIR	*Trouble output* *12 V / max 300mA*	*3 +* *4: -*
SW	Mode switch	OFF: Modem use only (transparent) ON: Emergency call and Modem use
12VOUT	*Uninterrupted power output* *12V / max. 300 mA*	*7: +12V* *8: GND*
230V	Mains power connector	1: Neutral 2: Earth 3: Live (F1)

2.3 Wiring

The device has been designed solely for operation on a 230 VAC / 50 Hz supply.
Work on the 230 VAC power supply must be carried out by a qualified electrician.
Doing so the applicable accident prevention regulations must be observed, to avoid electric shock, the mains has to be disconnected (trip the circuit breaker).



3 Design DIN

3.1 Specification

Article-No:	*100.0811BL (EA-LTE-DIN-LIGHT-GATW)* 100.0812BL (EA-LTE-DIN-*GATW*)
Power supply:	14.3 VDC +/- 0.15 V Standby: 1.5 W + 2.5 W during connection *+ load on 12VOUT* *+ load on EL* *+ load in SIR* + 5 W during battery charge (max)
Backup battery:	12 V / 1.2 Ah (100.0880) Typical charging time: 8 h
Dimension (L x W x H):	45 x 118 x 138 mm
Housing:	DIN
Weight:	400 g (without battery)

3.2 Connectors

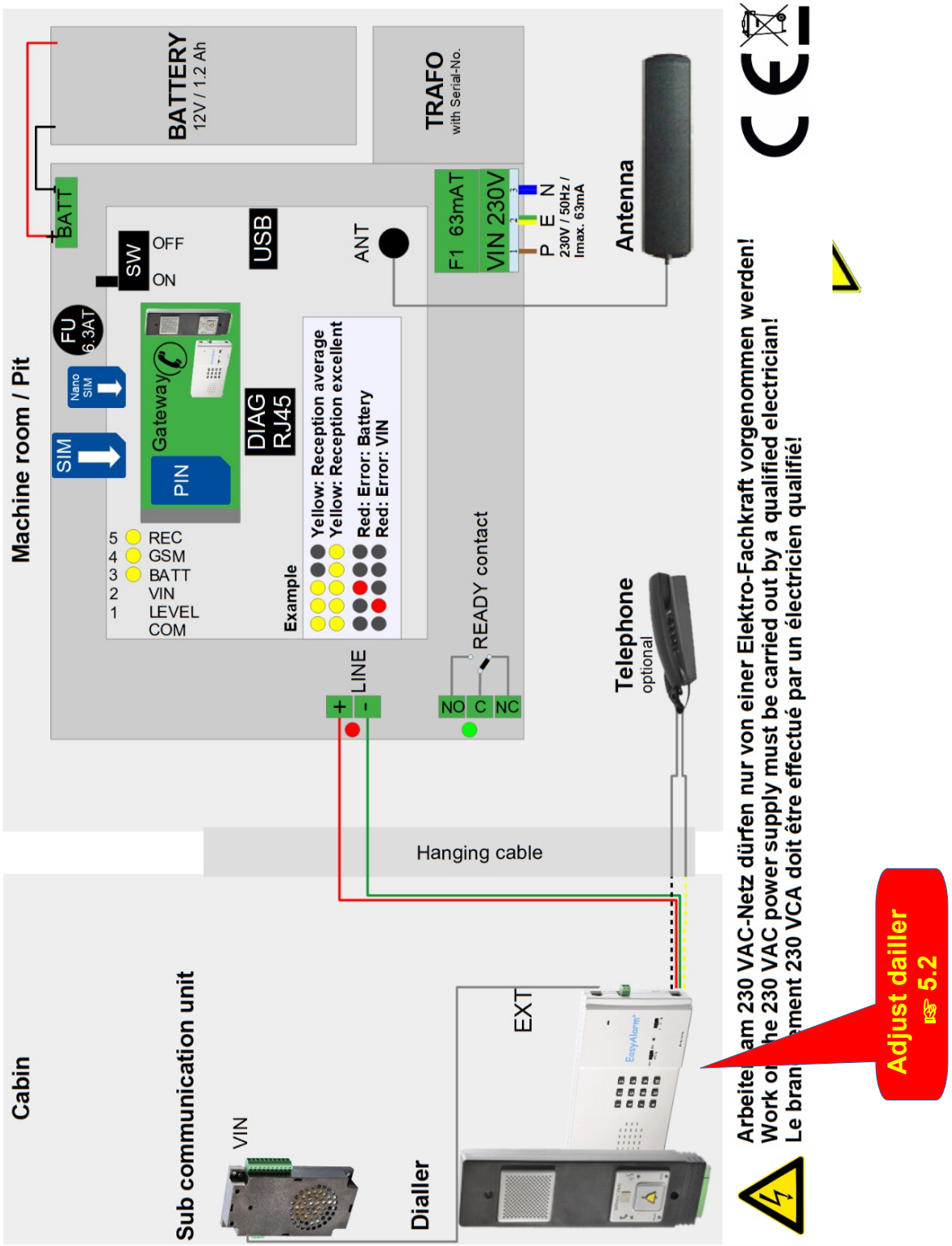
These gray marked elements do not exist in the LIGHT version

	Comment	
ANT	Antenne SMA	Antenna
ALM	*Alarm-input*	*1,2: active if signal 10 .. 50 V AC or DC*
BATT	Connector for 12 V / 1.2 Ah battery	1: +BATT (red) 3: -BATT (black)
EL	*Emergency light output* *12 V / max 300mA*	*5: +* *6: -*
EXT	Data interface	For modem use
FU	Battery fuse	6.3 A slow
LINE **LINE RJ12**	Analogue telephone line	9: +LINE 10: -LINE
READY	Relay: Operation control: „System ready"	1: Normally closed contact (NC) 2: C 3: Normally open contact (NO)
SIM ***GATW SIM***	SIM-card holders	PIN:0000 PIN:1010 M2M-SIM-Card ☞ **Check label**
SIR	*Trouble output* *12 V / max 300mA*	*3 +* *4: -*
SW	Mode switch	OFF: Modem use only (transparent) ON: Emergency call and Modem use
12VOUT	*Uninterrupted power output* *12V / max. 300 mA*	*7: +12V* *8: GND*
14V3IN	Supply voltage	+14V3IN -14V3IN

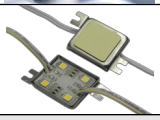
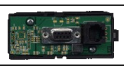
3.3 Wiring

Work on the 230 VAC power supply must be carried out by a qualified electrician.
Doing so the applicable accident prevention regulations must be observed, to avoid electric shock, the mains has to be disconnected (trip the circuit breaker).

The DIN version is supplied with 14.3V DC, various power supply units are available with 230V AC and with 9-35V DC input



4 Accessories

Picture	Supply voltage	Article-No
	**DIN-Switching power supply EA-ACDC-USV** Supply voltage: 230 VAC / 50 Hz, Output voltage: 14.3 VDC / 10 W	118.0117
	**DIN-Switching power supply EA-DCDC-USV** Supply voltage: 16 to 35 VDC, Output voltage: 14.3 VDC / 10 W	118.0118
	**DIN-Switching power supply EA-DCDC-USVi** Supply voltage: 9 to 35 VDC, Output voltage: 14.3 VDC / 10 W (isolated)	118.0119
	**Battery** 12 V / 1.2 Ah	100.0880
	Battery holder for DIN rail	100.0881
Picture	**Antenna material** **www.leitronic.ch/Documents/GSM-Empfang-Antenne.pdf**	**Article-No**
	**Wall-antenna** cable 5m SMA (Outdoor)	100.0864
	**Directional Antenna** cable 5m SMA, 10dBm gain (Outdoor)	100.0866
	**Extension-cable** 10m SMA	100.0863
	Extension-cable 5m SMA	100.0865
Picture	**Emergency Light**	**Article-No**
	**Emergency-Light LED-strip 10cm** 12 V / 0.8 W, 16 cd 120°, 52 lm ☞ 100.023x	100.0870
	**Emergency-Light LED-strip 2x10cm** 12 V / 1.6 W, 33 cd 120°, 104 lm ☞100.023x	100.0873
	**Emergency-Light LED-srew M8** 12 V / 0.2 W, 44 cd 20°, 4 lm, cable	100.0872
	**Light LED Ring** 6 to 15 V / 1 W, cable 10cm, Suitable to polycarbonate front panels (Art. No: 100.0211 / 0212 / 0213) in Rx42-gaps	100.0874
Picture	**Serial interface refer to special document:** **www.leitronic.ch/Documents/100.085x_Data-Modules-GB.pdf**	**Article-No**
	4xLAN-WIFI for 4G/LTE passes the internet connection of the SIM cards to any device. 4 Ethernet ports + 2.4GHz Wifi. Power supply from 100.08x2BL. Installed in IP housing	100.0840
	12V-Adapter for LIGHT-Version 100.08x1BL for 100.0840	100.0291
	4xLAN-WIFI for 4G/LTE passes the Internet connection of the SIM cards to any device. 4 Ethernet ports + 2.4GHz Wifi. Power supply from 100.08x2BL. Desktop device	100.0841
	1xLAN-WIFI for 4G/LTE passes the internet connection of the SIM cards to any device. 1 Ethernet ports + 2.4GHz Wifi. Power supply from 100.08xyBL	100.0842
	**Data-Module DB9** serial interface for elevator controls	100.0851
	**Data-Module USB** interface for elevator controls MiniUSB	100.0851
Picture	**Other accessories**	**Article-No**
	**Remote-Ready** monitors the status of multiple installations using the telephone line. Adjustable alarm delay Error: Reference not found	100.0410
	SIM-card	M2M-SIM

4.1 Update older mobile platforms/technology

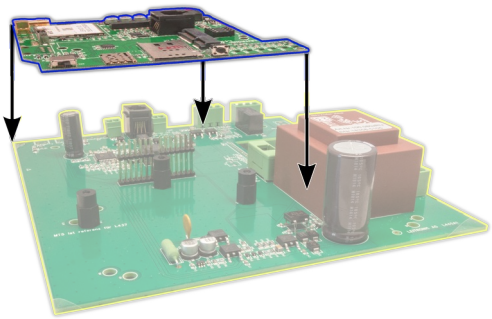
Picture	Update modules	Article-No
	Upgrade 2G ☞ 3G for 100.0802B Design IP from 2015	L437IP-GATW
	Upgrade 2G ☞ 3G for 100.0802B Design DIN from 2015	L437DIN-GATW
	Upgrade 2G ☞ 3G for 100.0802/100.0802A old design (until end of 2014) Retro-Set containing of L445 + L437IP-GATW (without housing)	100.0802RU
	Upgrade 2G ☞ 4G for 100.0802B Design IP from 2015	L416IP-GATW
	Upgrade 2G ☞ 4G for 100.0802B Design DIN from 2015	L416DIN-GATW
	Upgrade 2G ☞ 4G for 100.0802/100.0802A old design (until end of 2014) Retro-Set containing of L445 + L416IP-GATW (without housing)	100.0802RL

4.1.1 New platform delivered from 2015

- Changeover in 10 minutes
- Exchange of only one board
- Preservation of existing installation

Loosen only 2 screws & plug in L416IP-GATW / L437IP-GATW board

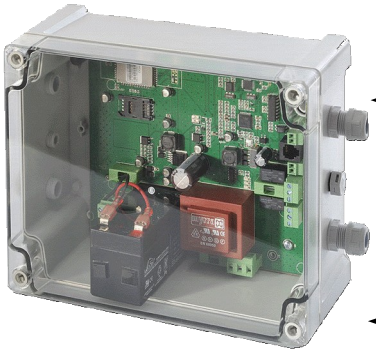
Old motherboard remains



Design DIN: Open housing and proceed as above using L416DIN-GATW / L437DIN-GATW board

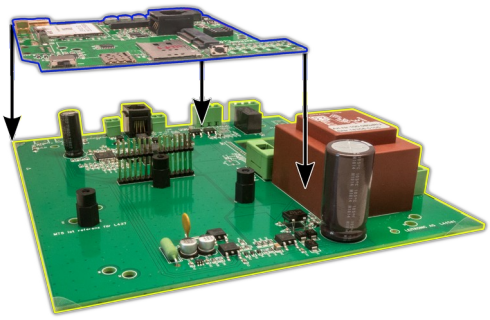
4.1.2 Old design delivered until end of 2014

- Changeover in 10 minutes
- Use of existing housing
- Preservation of existing installation
- Motherboard becomes future-proof for later updates



Loosen only 4 screws & Install Retro-Kit 100.0802RL / RU

Use of existing housing, connectors and cabling

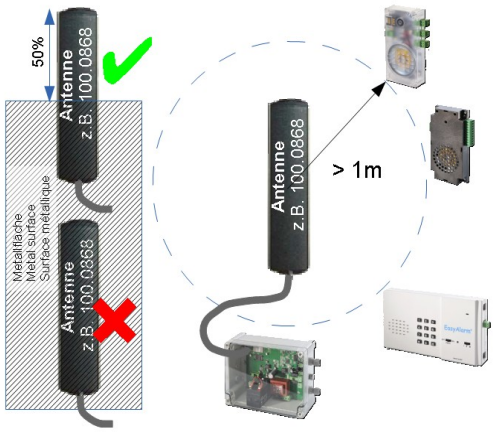


Code: ----

5 Start-up

Site selection ☞ http://www.leitronic.ch/Documents/GSM-Empfang-Antenne.pdf

Recommendation: Insert antenna in cover and mount outside shaft, in the machine room or inside shaft.
Not in the vicinity of radio transmitters and interference sources. If there are no free wires in the hanging cable, the EA-LTE-Interface can be mounted on top of the cabin.
In any case, the **reception** must be **checked over the entire travel of the cabin** ☞📖5.1 Check Reception! Note that the **level-indicator** may **be delayed**.



- Connect **alarm dialler** according to wiring plan.
- Connect **elevator control** according to wiring plan (Relay-contact NO or NC: System ready).
  ☞ Multi-system operations use wiring according 📖Fehler: Verweis nicht gefunden

- Connect optional **emergency light according to wiring plan.**
- Connect **antenna**.

- Insert SIM-card with **PIN set to** 0000.

☞ To set PIN to 0000 use any mobile phone:
[*][*][0][4][*] <old PIN> [*][0][0][0][0][*][0][0][0][0][#] + ✆
or insert M2M-SIM-Card with PIN 1010.

- Connect the **battery** 100.0880.
  Work on the 230 VAC power supply must be carried out by a qualified electrician.
  Doing so the applicable accident prevention regulations must be observed, to avoid electric shock, the mains has to be disconnected (trip the circuit breaker).
- Connect power supply **230V** mains (EA-LTE-IP: 100.080xBL)
  or **14V3IN** (EA-LTE-DIN: 100.081xBL)
  - either from 230 VAC using DIN-adapter 118.0117.
  - or from 16 to 35 VDC using DIN-adapter 118.0118.
  - or from 9 to 35 VDC (VIN/VOUT isolated) using DIN-adapter 118.0119.

- After two minutes the LEVEL indicators are showing the reception. LED_COM flashes green every 3 seconds.
  ☞ Stick the antenna where the LEDs LEVEL show maximum reception.
- Start test call on alarm dialler and check quality of voice connection.

5.1 Reception test

1. If the EA-LTE-Interface is mounted on the cabin roof, send the cabin to the location with the **worst** reception (check reception with LED1. .5). Attention: The level-indicator may be delayed.
2. Start test call and check if the connection is established ☞ terminate test call.
3. **Re-start test call** ☞ Connection must be established ☞ Stay in connection and move the cabin over the complete shaft ☞ Check if connection remains stable ☞ Terminate test call ☞ Send SMS to verify Levels: `Rssi:<mom>(<min>-<max>)`
   ☞ The minimum value <min> must be higher than 5!
   ☞ **Report** Rssi-Value with date (see last page)
4. If a problem occurred during test, change or optimize the placement of the antenna. You may use an outdoor antenna ☞ e.g. Article-no 100.0864, directive antenna 100.0866 and / or extension cord 100.0863/100.0865.

5.2 Prepare EasyAlarm/Exicall for use with mobile network

To ensure that the correct number is dialled even with roaming, the calling numbers of the dialler must be entered including the country code.
To increase the success rate of data transmission using DTMF tones (WinMOS or other Routine receiver), it is recommended to adjust the tone duration as follows:
Available from software version EasyAlarm / Exicall V39!

OFF ON PROG	* 9 7 1 3 3 6 # #	..	*	Value	#	OFF ON PROG

Value	Information
84	Tone duration optimized for the mobile network to 160msec (duration=(value-76) * 20msec) (Factory setting from V49)
80	Tone duration for land-line use 80msec (Factory setting from V39 until V48)

6 Indicators

COM	Comment
Green	Logged in to the network: Flashes every 3 seconds Network Search/SIM PIN Error: Lights up constantly > 60 seconds SIM not detected: Lights up constantly for less than 40 seconds
Blue	Elevator Control in connection: serial interface or missed call

LED	Reception level	Error code
LEVEL	Level poor	
VIN	Level low	Problem with supply voltage
BATT	Level medium	Problem with battery/charging
GSM	Level high	Problem with mobile Network or Roaming or line permanently busy Flashing: Slide switch to OFF
REC	Level excellent	Problem with reception (Level Alarm)

LED	Comment
ALM	Indicator of alarm input activation
EL	Indicator of emergency-light output
LINE	Indicator telephone line busy
OK (READY)	Ready-indicator for EA-LTE-Interface, if • Battery and battery-charging ok • SIM-card inserted with correct SIM-PIN • Reception sufficient Otherwise the elevator may not perform any further trips. Note: OK (READY) can be delayed up to two minutes (Reception)
SIR	Indicator of trouble output
12VOUT	Indicator of 12V USP voltage

7 Troubleshooting

Faults and errors are displayed by the various indicators (LED) ☞🕮6

Detailed error information available through a status inquiry via SMS or automatically by **Status-SMS** in case of a new error (if <Send Alarm> is ✉ ☞Table 🕮8.3)

☞ send SMS with content
PIN:0000
PIN:1010 M2M-SIM-Card
☞ Reply-SMS ☞🕮8.3

You only get an answer if the PIN is correct and the SMS is not longer than 160 characters!

8 Programming over SMS

Programming is done by **SMS**. An SMS containing correct `PIN` will be evaluated and answered ☞🕮 8.2 to the sender. All **commands** are written in **CAPITAL LETTERS**.

SMS-Commands	Comment	Reply-SMS
PIN:0000 **PIN:1010** M2M-SIM-Card ☞ **4-digits check label**		GSM: **leitronic.ch** UMTS: **Leitronic.ch** LTE: **LEitronic.ch** `GSM 4.xx ready`
NEW:1234	Change PIN to 1234 and activate SIM-card protection Note: PIN 4-digits	`New Pin:1234`
ALARM=<Alarm-number>␣	**Status-SMS** number with +country code e.g. +41 completed with a space (max. 24 digits)	`Alarm:`<Alarm-number>
ALARM=OFF	Disable **Status-SMS**	`Alarm:OFF`
RESET	Set to factory defaults	`Reset`

8.1 Advanced settings

Advanced settings can be read-out or changed as following:

EE_R:<adresse>	Read `EEPROM` <adresse> is 4-digits	`adr:`<adresse>:<read out value>
EE_W:<adresse>=<value>	Write `EEPROM` <adresse> is 4-digits <value> is 3-digits (000..255)	`adr:`<adresse>:<written value>

<adresse>	Function	<value>	Default
`0018`	Debounce time: Alarm-input ALM until **Status-SMS**	000 to 255 * 20ms	050 = 1s

Example:
PIN=1010, **Status-SMS**: +41 79 100 10 10, Debounce time ALM = 2 s
☞ send SMS with content
PIN:1010 ALARM=+41791001010 EE_W:0018=100
☞ Reply-SMS
`LEitronic.ch GSM 4.xx ready, Alarm:+41791001010, adr:0018:100, Batt:96, Ri:18, Charge:255, Power:34, last Call:26, Rssi:12(9-15), Errors:-----,-----,---` (limited to 160 characters)

8.2 Reply-SMS

leitronic.ch registered to the GSM/2G-network
Leitronic.ch registered to the UMTS/3G-network
LEitronic.ch registered to the LTE/4G-network

Example of a **Reply-SMS**:

```
LEeitronic.ch GSM 4.xx xx,(adr:<adresse>:<value>),(New Pin:<new PIN>),
(Alarm:<alarm number>), Batt:xx, Ri:xx, Charge:xx, Power:xx, last Call:xx,
Rssi:xx(xx-xx), Errors:-----,-----,---
```

Label	Comment	Value xx	Info
GSM 4.xx	Status Software-Version	ready not ready	System ready to use System not ready
Batt: defect!	Battery voltage	0 to 97	**Calculate voltage: 0.145 * <value>** e.g. 97 ☞ 14.05V or 92 ☞ 13.34V
Ri:	Battery-resistance	8 to 70 ①	0- 7 ☞ battery test circuit defect 8 – 23 ☞ battery o.k. >23 Battery failure or blown fuse F2 6.3AT
Charge:	Battery charge value	0 to 255	Charge: * 255s / Discharge: * 15s
Power:	Battery charging voltage	0 to 38	≤ 13 ☞ supply voltage missing ≤ 2 4 ☞ supply voltage too low to charge battery 30 ☞ supply voltage sufficient
last Call:	Hours since last call	0 to 255	in hours
Roaming	Roaming		Not home GSM-network => higher costs
Rssi: <mom> (<min>- <max>)	Reception-Level Momentary Min. since last call Max. since last call	0 to 31	**Calculate level: 2*<Value> - 113dB** e.g. 10 ☞ 2*10-113 = -93db poor ≥ 5 LED1 low ≥ 10 LED2 medium ≥ 15 LED3 high ≥ 20 LED4 excellent ≥ 25 LED5
Errors	**Error-No. 0 to 12** i.e. ----+,---*-,--*	- + * ,	-: inactive *: active ,: separator before error 5/10 +: delayed error not jet active

① Attention: a new accumulator can show higher values during the first hours

Example:
Change PIN from 1010 to 1234, set Alarm to +41791234567, set EEPROM 0018 to 100
☞ send SMS with content

```
PIN:1010 NEW:1234 ALARM=+41791234567 EE_W:0018=100
```

Reply-SMS

```
LEitronic.ch GSM 4.xx ready, New Pin:1234, Alarm:+41791234567,
adr:0018:100, Batt:96, Ri:18, Charge:255, Power:28, last Call:26,
Rssi:8(5-15), Errors:--*-+,-----,---
```

☞ **Error 0 to 12**: 2 active: Reception poor
4 in delay: Supply voltage too low

If you **do not get any Reply-SMS**, please check the following points:

a) EA-LTE-Interface is **not connected** to the mobile-**network** ☞ check LED_GSM
b) **PIN-Code** is incorrect
c) **SIM number** is incorrect
d) **No money** left on SIM-card
e) Mode switch **SW1 not on ON**
f) **SMS is too long (max. 160 characters!)**

8.3 Automatic Status-SMS

The Status-SMS will be sent to the **defined alarm-number** ALARM= ␣, **completed with a space**.
To disable the **Status-SMS** ☞ send SMS with content:
PIN:0000 ALARM=OFF␣
PIN:1010 ALARM=OFF␣ M2M-SIM-Card

Example:
Signal on input ALM ☞ SMS with content:
LEitronic.ch GSM 4.xx ready, Alarm X4, Batt:96, Ri:18, Charge:255,
Power:34, last Call:26, Rssi:12(9-15), Errors:*----,-----,---

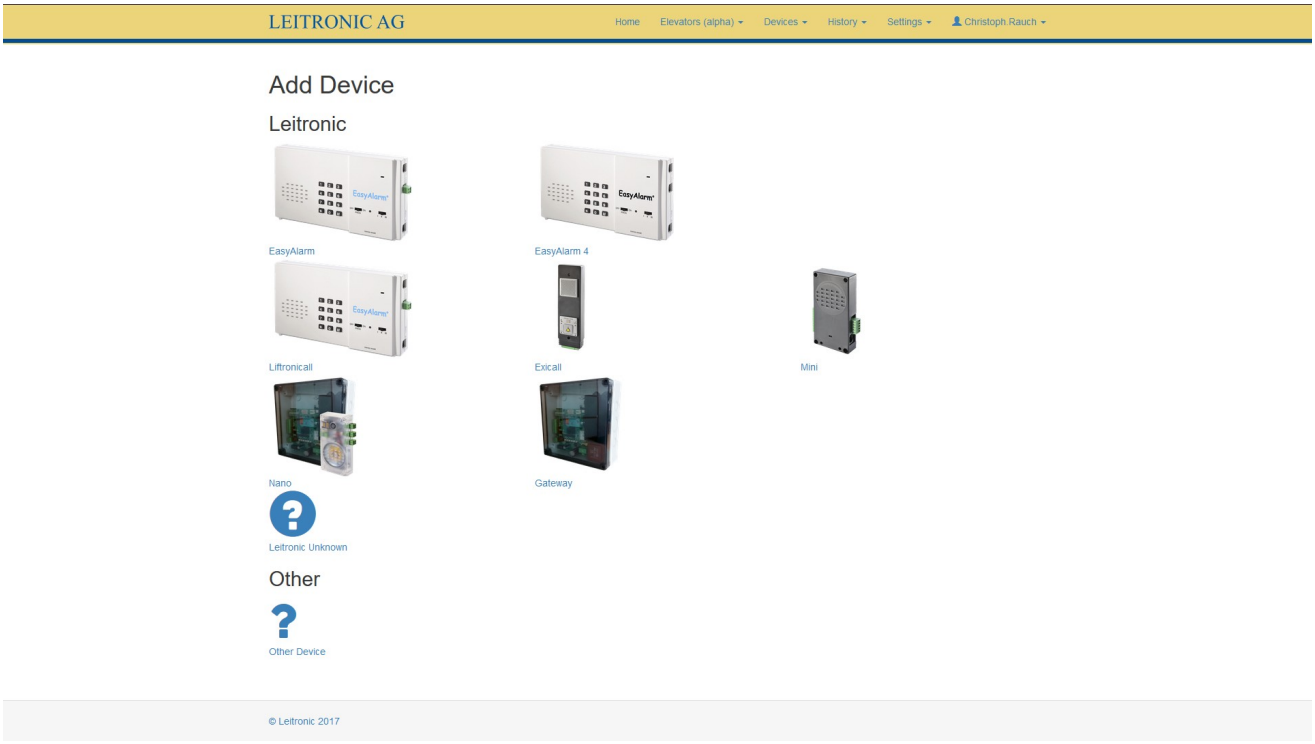
Errors	< State / Error>	READY (OK)	Emergency light	Delayed	Send Alarm	SMS content	Error code LED ❍ off ❍ could be on ● on: REC	GSM	BATT	VIN	LEVEL	Test interval	Send Restore	Restore-SMS content
0	Alarm X4 / ALM	●	Off	0	☒	Alarm X4	❍	❍	❍	❍	❍	(50)*20ms	-	No Alarm X4
1	Supply voltage missing	●	On	0	-	Power off	❍	❍	❍	●	❍		-	Power on
2	Reception poor	●	On	15 s	☒	GSM poor	●	❍	❍	❍	❍	2 s	-	GSM ok
3	Roaming	●	On	0	☒	Roaming	❍	●	❍	❍	❍	2 s	-	Home
4	Supply voltage too low to charge battery	●	Off	15 s	☒	Power poor	❍	❍	❍	●	❍		☒	Power not poor
5	No call within routine interval	●	On	0	☒	No routine call	❍	❍	❍	❍	❍	(74) h	-	Routine call ok
6	Telephone line busy	❍	On	0	☒	Line busy	❍	❍	❍	❍	❍	(4) min	☒	Line ready
7	Battery not charged within 24 h	●①	On	0	☒	Charge problem	❍	❍	●	❍	❍	24 h	☒	Charge ok
8	No or bad battery or fuse F2 defect or battery test circuit defect (Ri<8)	●①	On	0	☒	Battery failure	❍	❍	●	❍	❍	1h	☒	Battery ok
9	Reception bad	❍	On	15 s	☒	GSM bad	●	❍	❍	❍	❍	2 s	☒	GSM ok
10	No mobile network or not registered or mode switch SW1 not on ON	❍	On	0	☒	No GSM	❍	●	❍	❍	❍		☒	GSM registered
11	Interface defect	❍	On	0	☒	Line problem	❍	●	❍	❍	❍	1 h	☒	Line OK
12	Battery end	❍	Off	0	☒	Battery end	❍	❍	●	❍	❍	2 s	☒	Charging

① from V3.15: Errors 7 + 8 ☞ Ready (OK)
Check battery values with every maintenance ☞ replace if Ri> 23 ☞🕮Fehler: Verweis nicht gefunden

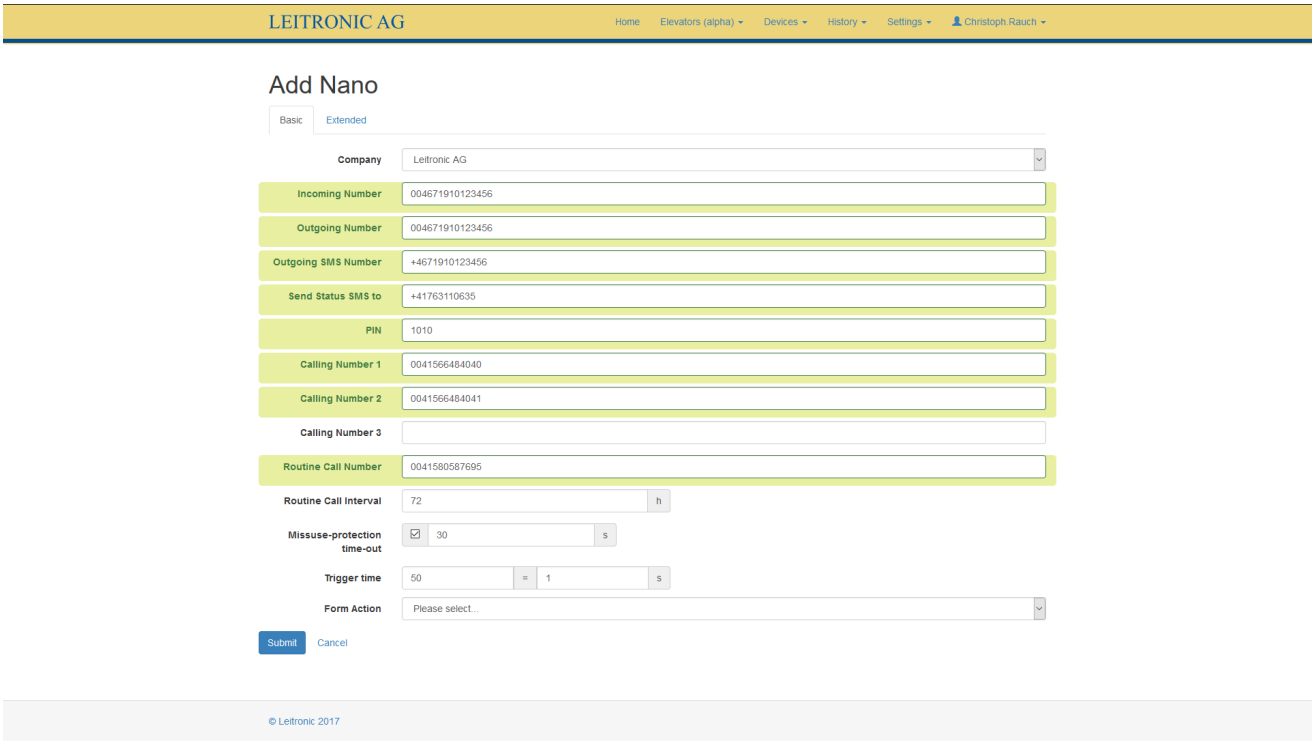
9 Programming via online portal

Log in to the portal with your profile, if you do not have one yet, please contact Leitronic.

9.1 Add device



9.2 Configuring and parametrizing the device



- Incoming call number: Phone number of the device
- Outgoing call number: Phone number of the device

Function "Add to database and change parameter"