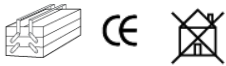


<b>UK</b> Installation Instructions	<b>FI</b> Asennusohje	<b>LV</b> Instalācijas instrukcija
<b>DE</b> Montageanleitung	<b>FR</b> Notice de montage	<b>NO</b> Monteringsanvisning
<b>CZ</b> Montážní návod	<b>HU</b> Szerelési útmutató	<b>PL</b> Instrukcja montażu
<b>DK</b> Monteringsvejledning	<b>IT</b> Montavimo Instrukcijos	<b>SE</b> Installationsanvisning
<b>EE</b> Paigaldusjuhend	<b>LT</b> Montavimo Instrukcijos	<b>RU</b> Инструкция по монтажу

TYPE:



## 4 channels control unit for signal units – Generalities

### 1. Electrical characteristics

#### 1.1 Range of operating voltage

Voltage range: 18 - 40 VDC\*

Power input: ca. 125 mA (installation consumption signal unit) by nominal voltage 24 VDC

The input voltage is conducted to channel exits.

The feeding of the electronic is generated from input voltage.

#### 1.2 Outputs for signal units

The 4 outputs are independent and can be charged with 2.5A each.

The outputs are protected against short-circuit, overload, over temperature and overvoltage.

In case of failure the correspondent output is switched-off immediately (does not apply by exceeding the maximum failure rate). The other channels are not interfered.

#### 1.3 Outputs for failure

4 relays change-over contact potential-free, for each channel

max. switching-current: 1 A at 250VAC (resistive)

max. switching power: 30 W (DC) / 250 VA (AC)

switchable total failure / single failure

## 1.4 External flashing contact

### 1.4.1 flashing contact 24V

switching-voltage : 24 VDC / galvanically separated

Connection plug arrangement flashing contact 24V	
1	flashing contact +
2	flashing contact -

### 1.4.2 flashing contact 60V

switching-voltage : 60 VDC / galvanically separated

Connection plug arrangement flashing contact 60V	
1	flashing contact +
2	flashing contact -

## 1.5 Indicators

power 5V	LED	1 pc	grün
output channel 1-4	LED	4 pc	grün
failure channel 1-4	LED	4 pc	rot
ext. flashing contact 24V	LED	1 pc	grün
ext. flashing contact 60V	LED	1 pc	grün
display	7 segments LED-display	4 pc	grün

## 1.6 Programming

Programming by 3 keys on the control board or by remote control.

## 2. Function properties

### 2.1 Functions

#### 2.1.1 Continuous Lighting

If this function is activated, the signal units shine with 100% luminosity.

#### 2.1.2 Dimming

The signal units are dimmable almost continuously from 1% - 99% (1% steps) by a PAM (pulse-amplitudes modulation). The higher the percentage is adjusted, the more brightly the signal units shine. A PAM has the advantage that also the latest signal units on the chain have the same brightness as the first ones.

#### 2.1.3 Blinking

If this function is activated, the signal units are blinking. The blink-frequency can be adjusted between 0.1Hz – 9.9Hz by 0.1Hz steps.

#### 2.1.4 Flashing

If this function is activated, the signal units flash with a fixed frequency of 1Hz. The flash-interval (therefore brightness of flashing) is adjustable between 1ms – 99ms by 1ms steps.

#### 2.1.4 Off

If this function is activated, the signal units are cut off.

## 2.2 Operating modes

### 2.2.1 In general

The settings of all channels are called operating modes. 5 operating modes are available. The operating modes can be controlled by a potential-free external contact. By means of the selectable operating modes can be reacted to different situations (e.g. day, fog, accident etc.).

Each function (continuous lighting, dimming, blinking, flashing, off) can be assigned independently to each channel and in each operating mode.

### 2.2.2 Control

The operating modes can be selected by a potential-free external contact (switch, relay). If no connection is activated, the control is automatically on operating mode 1.

## 2.3 External flashing-contact

The control unit disposes of 2 inputs, each with an external flashing contact (24V - 60V). By this inputs, the central control can head for the signal units with the same cycle as for example the tunnel-traffic-lights or the SOS-telephones. Due to the fact that the tunnel traffic lights and the call boxes can be operated with different cycles, a priority sequence can be adjusted.

At rising signal edge on the external flashing-contact all 4 channels are switched on continuous lighting. At rising signal edge on the external flashing-contact all 4 channels are switched off. If for 2 seconds no more signal edge is detected, the channels operate again with the adjusted functions.

## 2.4 Failure messages

Each channel has its own failure-LED. This indicates a failure on the relative channel (short-circuit, overload, maximum failure rate exceeded etc.).

The following failures can be detected:

- short-circuit output level
- overload output level
- over temperature output level
- maximum failure rate exceeded

In addition, the operating and error-conditions are indicated on the 4-digit display.

Display	Errors
----	normal operating / no error
E0 I0	channel 1 maximum failure rate exceeded
E0 I1	channel 1 short-circuit / overload / overtemperature
E0 I2	channel 1 internal error
E020	channel 2 maximum failure rate exceeded
E02 I	channel 2 short-circuit / overload / overtemperature
E022	channel 2 internal error
E030	channel 3 maximum failure rate exceeded
E03 I	channel 3 short-circuit / overload / overtemperature
E032	channel 3 internal error
E040	channel 4 maximum failure rate exceeded
E04 I	channel 4 short-circuit / overload / overtemperature
E042	channel 4 internal error

The maximum failure rate can be adjusted globally for all channels from 1% – 99% in 1% steps.

In case of a reset, on a change of the settings or on connection of signal units during the installation, the reference current is read in again.

Each channel has additionally a potential-free change-over contact. This switches in case of failure. In case of a power failure and in idle conditions, the change-over contacts signal an error.

The change-over contacts indicate an error in case of power failure or in condition without tension.

With the DIP SWITCH 8 can be switched between single-failure and collecting-failure.

In case of single-failure the failure relay of the incorrect channel is switching and the associated failure LED is lighting up. In case of collecting-failure all failure relays are switching, but only the failure LED of the incorrect channel are lighting up.

The error condition can be cancelled by a RESET (by RESET key or remote control).

## 2.5 Priorities

If several operation modes are energized at the same time, the operation mode attributed the higher number is of higher priority. The external flashing contact is of highest priority has.

# Programming by remote control

## 3. Instruction manual

### 3.1 Description

- With the remote control all functions of the control unit and thus of the signal units can be adjusted. Via a menu structure (similar different mobile telephones) the different settings on the large, graphics-supported display can be selected and adjusted. Thus programming becomes simple. The actual setting can be indicated on the display by the bi-directional connection between the control unit and the remote control.
- The range amounts approx. 3 m.
- 4 keys serve as navigation: „↑“, „↓“, „⊗“ and „✓“
- The menu is available in 4 different languages: German, English, French and Italian.

## 4. Electrical properties

### 4.1 Range of operating voltage

Operating voltage: 3 V DC, 2 batteries type AA  
Power input: operating approx. 30 mA / stand-by < 100 mA  
Battery life: > 1 year at stand-by-mode

### 4.2 Display elements

LCD COG 101 x 81 Pixel, 36 x 27mm, with white background lighting

#### 4.3 Radio

- bi-directional
- radio frequency 2.400 – 2.483GHz
- radio power < 10mW EIRP
- licence free
- range approx. 3m

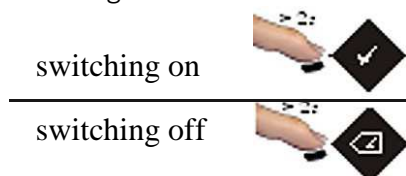
### 5. Function-specifically properties

#### 5.1 Initialization

At 1st use of the batteries the remote control is initialized as following:

- language: German
- menu point: main menu

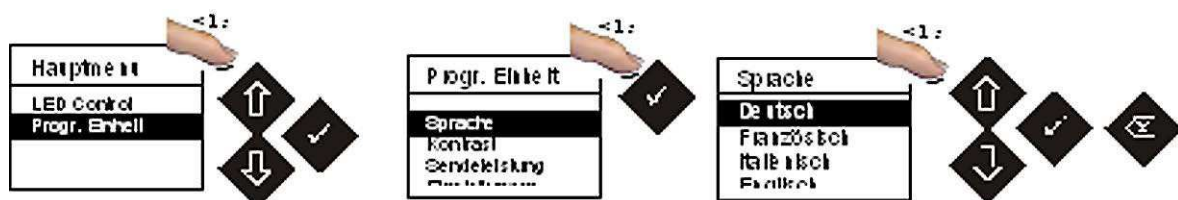
#### 5.2 Switching on and off



If for longer than 2 min no key is pressed, the remote control is switching off automatically. By switching on, the menu last used is appearing. If the remote control was switched off by the power key, a logo appears by switching on and the menu bar is in the main menu.

#### 5.3 Navigation in the menu Example

setting language:



#### 5.4 Radio address

In order to communicate with the correct control unit, an address must be assigned to each control plate. At connecting, the operator can select between manual address input or automatic address search:

- Manual address input:

The address of the control unit must be entered manually. Starting the connection, the suitable control unit will be searched within a radius of 3 m. If the connection has been established, the menu is indicated on the control unit and the parameters can be changed now.

- Automatic address search:

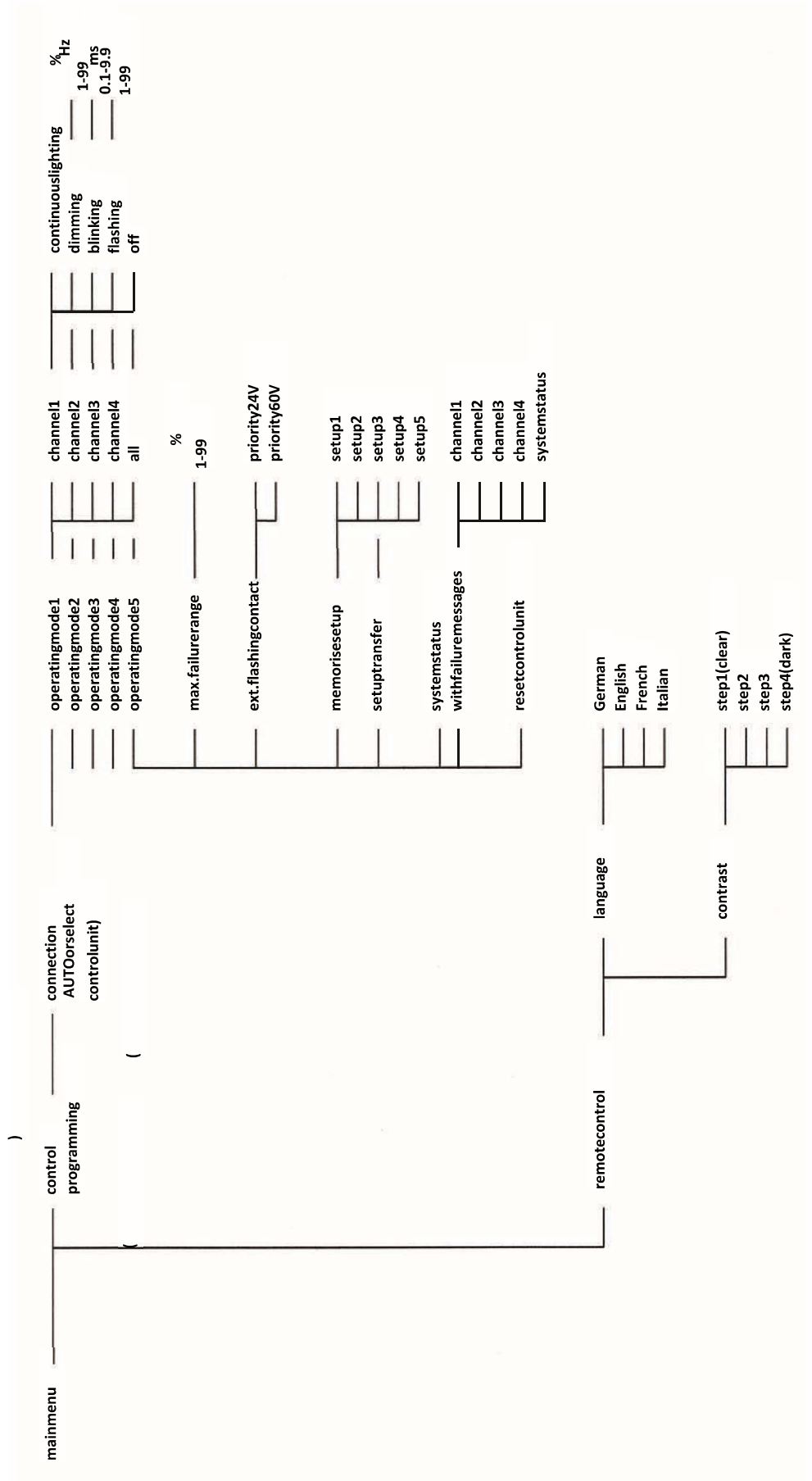
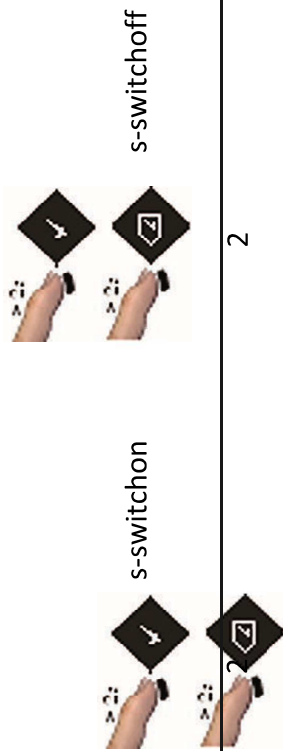
If this menu point has been selected, the remote control search the control unit within a radius of 3 m. The search starts with the lowest address. If a control unit is answering, the found address is shown on the display of the remote control and at the same time the display on the control plate is flashing. Now the operator can select whether the connection to this detected control unit should be made, or whether the search should go on.

- The addressing of the control unit is effected with the DIP-switches 1-3 according to the following pattern:

address	switch setting		address	switch setting
1	000		5	001
2	100		6	101
3	010		7	011
4	110		8	111

- Delivery status is address 1. When assembling 2 or several control units at the same place, the control units must be assigned to different addresses.

# 5.5 Menu overview



## 5.6 Transmission confirmation

As soon as the data are sent, a window appears on the display, which symbolises the radio traffic:

D ))))

If no connection can be made, an error windows appears:

incorrect transmission  
continue with ✓

## 5.7 Background lighting

The background lighting switches on, as soon as any key is pressed. It switches off 10 seconds after the last key is pressed.

## 5.8 Self check / putting back to original settings

A self check can be released by pressing simultaneously the key „↑“ and „↓“ for at least 2 seconds. At the same time the memorised setups, the menu language etc. of the remote control are put back to original settings.

Checking:

- LCD (sight check)
- Backlight (sight check)
- Software version (sight check)

Check run

The display switches all pixels on and off. The background lighting is switched on. Subsequently, an information window is indicated for some seconds: - Revision - ....

All information must be checked manually.

## 5.9 Battery change

If the batteries has to be replaced, all settings remain unchanged. All settings are memorised in the Eeprom.

## 5.10 Software update

For a software update the remote control has to be returned to Gifas-Electric. The remote control will be opened and reprogrammed.







# Programming without remote control

## 6. Programming with programming keys

If no remote control is available, all parameters can be adjusted by the 3 programming keys.

During the programming by the keys, the remote control is locked.

Key functions:

-  / activating programming mode  
/ leaving programming mode
-  / confirming choice /  
confirming input
-  / choosing parameter /  
increasing value
-  / choosing parameter  
/ decreasing value

Accessing into the programming mode by pressing the OK key for at least 2 seconds.









The first selectable parameter is indicated on the display and is blinking. The parameters can be chosen by the UP- and DOWN-keys and confirmed by the OK-key. Afterwards, the next selectable parameter is indicated on the display etc.

Leaving the programming mode by pressing the OK key for at least 2 seconds. The programming mode will be left automatically 2 minutes after the last input.

If the ↑-key and the ↓-key are pressed for more than 5 seconds, the original settings will be restored and a software reset will be executed.

During the adjustment, the output channels remain uninfluenced. Only after leaving the menu (by pressing OK-key or after 2 minutes), the new settings become active.

Example:

Step	Action	Keys	Output channels
1	activating programming mode		no change
2	choosing operation mode and confirming		no change
3	choosing channel and confirming		no change
4	choosing operating function and confirming		no change
5	adjusting value and confirming		setting has been accepted
6	choosing priority flashing contact and confirming		no change
7	adjusting value and confirming		setting has been accepted
8	leaving programming mode		no change

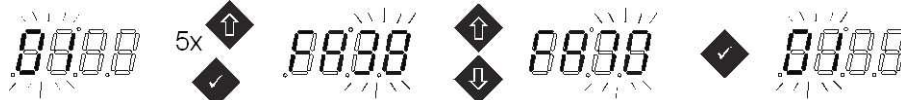
## Menu overview:

01 - operation mode1	C1 - channel 1	CS - continuous lighting
02 - operation mode2	C2 - channel 2	DI - dimming 01-99 1-99 %
03 - operation mode3	C3 - channel 3	BL - blinking 01-99 0.1-9.9 Hz
04 - operation mode4	C4 - channel 4	FL - flashing 01-99 1-99 ms
05 - operation mode5	CA - all channels	OF - off
FA - maximum failure rate 01-99 1-99 %		
PB - priority flashing contact	24 - priority 24 V	
	60 - priority 60 V	

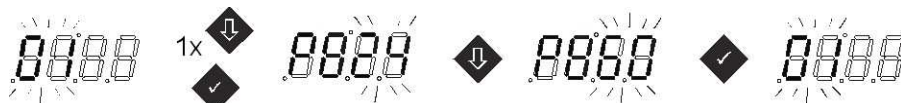
Example 1: adjusting the channel 2 at operation mode 3 to 87% dimming



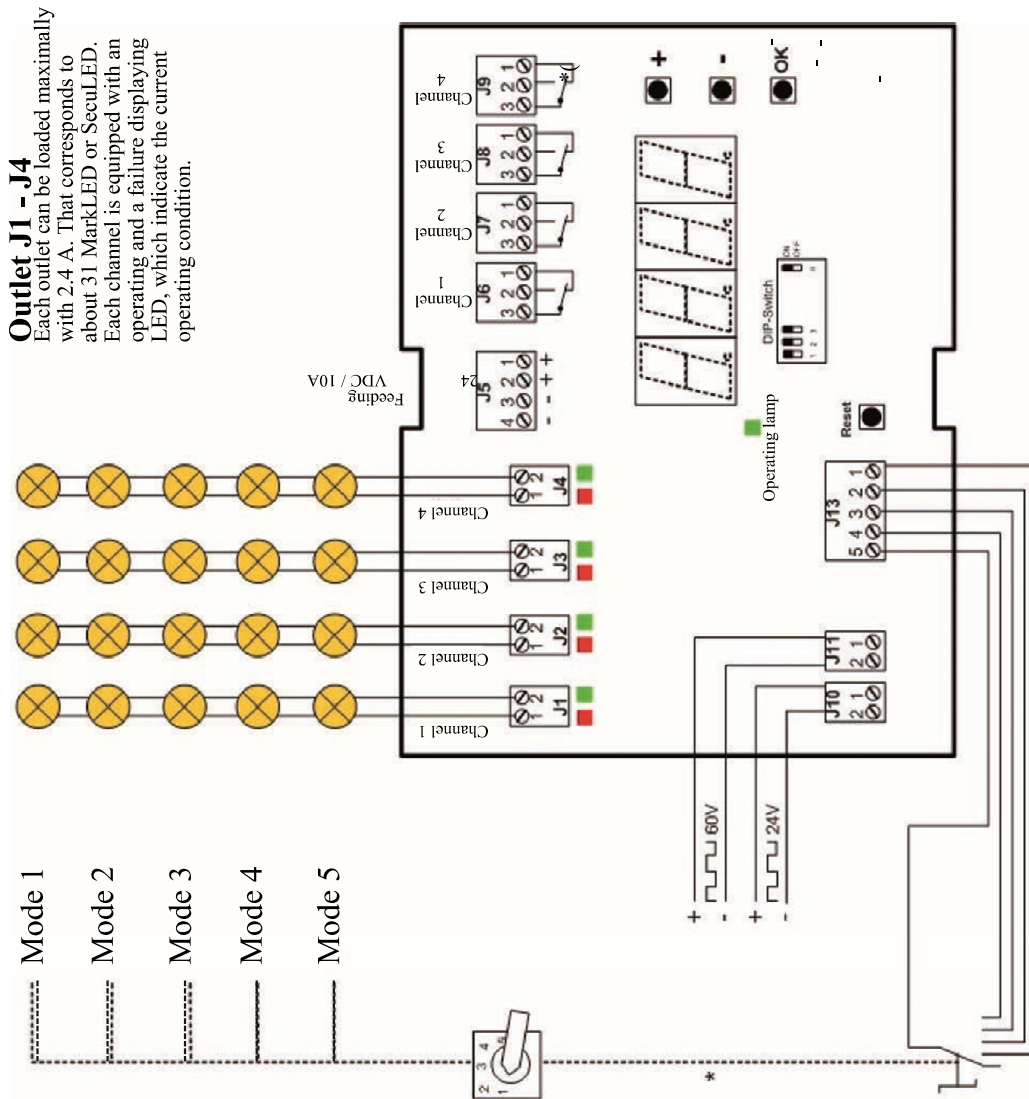
Example 2: adjusting maximum failure rate to 70%



Example 3: adjusting priority of external flashing contact to 60V input



## Diagram of connections control unit 4 channels for signal units



### Outlet J1 - J4

Each outlet can be loaded maximally with 2.4 A. That corresponds to about 31 MarkLED or SecuLED. Each channel is equipped with an operating and a failure displaying LED, which indicate the current operating condition.

### Feeding J5

Tensions of 18-40 VDC are permitted.

### Failure reports J6 - J9

A relay with change-over contact is assigned to each channel for the signalling of fault signals. The relay drops, if a disturbance has occurred. Switchable of single disturbance (OFF) on sum disturbance (ON) with Microswitch 8. During sum disturbance all relays connect, independently on which channel of the error occurs.

### External flashing contact J10 - J11

By connecting a flashing signal at J10 and/or J11 all channels flash with the same cycle. The priority is stopped in the menu under point PB.

### Operation mode control J13

Example with step switch

- no bridge = mode 1
- bridge 5 - 1 = mode 2
- bridge 5 - 2 = mode 3
- bridge 5 - 3 = mode 4
- bridge 5 - 4 = mode 5

### Functions

In each mode one of the following functions can be assigned to each channel independently:

- continuous lights
- dimmable light 1-99%
- flash 0.1 - 9.9 Hz
- lightning duration 1-99 ms
- off

**Up-to-date-settings:**

<b>Operation modes</b>	<b>channel 1</b>	<b>channel 2</b>	<b>channel 3</b>	<b>channel 4</b>
<b>mode 1</b>				
<b>mode 2</b>				
<b>mode 3</b>				
<b>mode 4</b>				
<b>mode 5</b>				