

### DIP-Switch on the Comfort module

With the DIP-Switches several operating modes can be programmed.



The programming is done by switching the corresponding switch in „ON“ position. When reaching the desired position, which is signaled by the blinking of the red LED, the jumper must be turned back in „OFF“ position. The signaling of the desired position will be repeated 4 x. The position shown at last is now programmed.

Switch 1:	<b>Display of door position</b> Traffic light control red/green		<b>1x flashing</b> 2x flashing
Switch 2:	Function/ kind of safety edge <b>Attention !</b> Jumper position on mainboard!	Diode/resistor with free cruise Diode/resistor with reverse <b>Opto - elektronik with free cruise</b> Opto - elektronik with reverse DW-Test with free cruise DW-Test with reverse	1x flashing 2x flashing <b>3x flashing</b> 4x flashing 5x flashing 6x flashing
Switch 3:	<b>permanent light impuls</b>	<b>3 seconds</b> 255 seconds	<b>1x flashing</b> 2x flashing
Switch 4:	Prewarning for France <b>Attention !</b> Jumper position on mainboard!	<b>door moves immediately</b>  door moves delayed (France)	<b>1x flashing</b>  2x flashing
Switch 5:	Automatic closing function <b>only Standard &amp; de Luxe</b>	<b>Photo beam starts closing time</b> Photo beam sets time to 5 sec.	<b>1x flashing</b> 2x flashing
Switch 6:	automatic closing time <b>only Standard &amp; de Luxe</b>	15 seconds 30 seconds <b>1 minute</b> 2,50 minutes 4,25 minutes	1x flashing 2x flashing <b>3x flashing</b> 4x flashing 5x flashing
Switch 7: <b>only Comfort module S 2</b>	Test photo beam	Test outside <b>Test inside/outside</b> Test off	1x flashing <b>2x flashing</b> 3x flashing

### The bold type values are pre-set during manufacturing

In the setting for France the door movement is prewarned by a permanent light impuls for 3 seconds, the traffic light RED flashes 3 seconds. The traffic light control activates during the door movement to a permanent RED signal.

Dealer:

## Instructions for Assembly and Use

### Industrial Door Control DC 3

#### ECO - Standard - de Luxe



Dear customer,

The DC 3 which you have purchased is one of our highest quality technical products. We have taken the greatest care in its manufacture to ensure that this microprocessor controlled encoder reaches you in faultless condition. However in the unusual event of suspected equipment failure please return the appliance together with the enclosed warranty document to your dealer or direct to our factory.

The extent of warranty exclusively refers to the free repair of malfunctions of the appliance, which demonstrably are caused by faults in production or defective material, inclusive of spare parts required for this purpose.

**Therefore please first read the instructions of use carefully before you start programming !!!**

geba GmbH is released of its obligations regarding guarantee and product liability if - without prior permission - the unit has been modified, or if the installation is improper or not in accordance with our instruction manual.

The installer has to take care that the EMC-regulations are respected.

## Warranty-document

On the below described product we grant a warranty of  
**2 years**

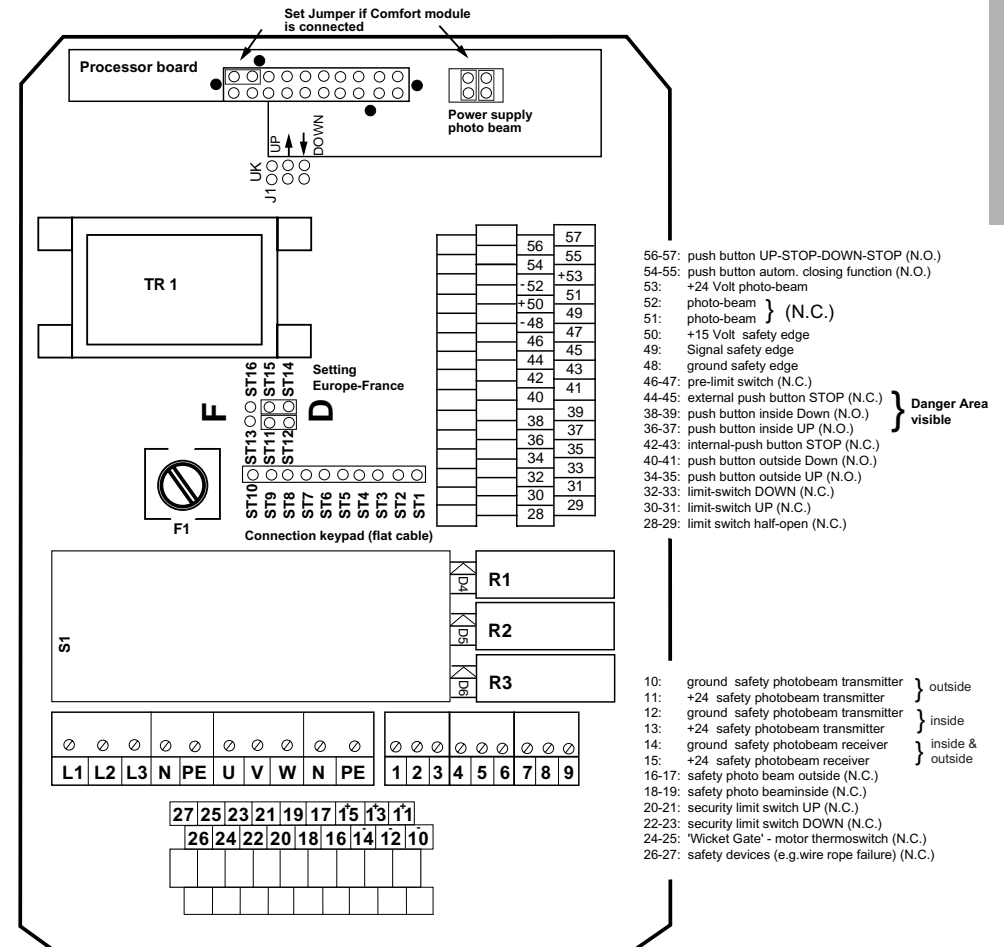
Type: **DC 3 ECO - Standard - de Luxe**

Production date: \_\_\_\_\_

Sales date: \_\_\_\_\_

Dealers adress: \_\_\_\_\_






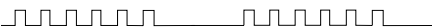


## Connection diagramme mainboard DC 3 de Luxe



de  
Luxe

**Control lamp (optional, only if Comfort module is connected!)**

The red LED indicates the most important faults with a flash code:

pre-limit switch defective	1 x flashing	
safety edge defective	2 x flashing	
limit-switch bottom defective	3 x flashing	
safety edge activated	4 x flashing	
photo beam defectivet	5 x flashing	
resp. light beam interrupted		
safety photo beam activated	6 x flashing	
safety chain interrupted	7 x flashing	
Failure safety photo beam	cont. flashing	 <small>only S2</small>

<b>Function of LED GREEN:</b>	LED flashes	= door moves „DOWN“
	LED briefly illuminated	= door is „CLOSED“

**Caution:**

During installation all elements have to be switched tension-free  
All installations and service works have to be done by authorized personell only.  
The relevant national and local standards and guidelines have to be respected.

**Technical Data:**

Supply voltage	3 x 400 V AC 50 Hz 15 A
Outputs motor	2 x 3 NO relay contacts, 400 V / 6 A
Wiring	1.5 mm <sup>2</sup> max.,
Operating-temperature	-20 °C to +60 °C

**Instructions for Assembly and Use**

**Industrial Door Control  
DC 3 ECO**

Art. 509.3000.40

The door control **DC 3 ECO** is provided for the operation of sectional-, folding-, rollershutter- and swingdoors.

All standard safety elements connectable.

By using the pushbutton elements on the housing there is no need to mount a triple pushbutton unit inside.

To open or close the door just push the corresponding button of the remote control resp. the button on the DC 3 - housing or on the outside push button unit.

If a radio- and Comfort module is installed the door can also be started or stopped via hand-held-transmitter.

The most important characteristics of the **DC 3 ECO** are:

- Simple operation, programming and assembly.
- Water-protected enclosure (IP65)
- Enough space for cabeling
- A maximum of safety:
  - radio control (with Hopping Code) - optional
  - refering to EU-guidelines for doors and shutters
  - several safety elements connectable

## Description of the Appliance

### Appliance according to the regulations

The door control **DC 3 ECO** is provided for the operation of sectional-, rollershutter-, folding- and swingdoors.

### Security devices

The manufacturer of the complete installation is responsible. He must take care that the relevant standards and guidelines (e.g. DIN 1986, EN 12050) have to be respected.



He must take care that a technical documentation of the whole installation is made available.

The technical documentation must be added to the door unit.

This symbol in the manual indicates a possible danger hint, which is described detailed in this manual.

Installation, operating and use of the unit against this manual or the described technical specifications causes danger for persons and produces a liability- and obligationsreleas.

National and regional precautions and standars for the installation, as well as safety precautions of local technical standards have to be respected.

### Operation elements

With the pushbuttons elements on the front, the door is operated in 'impuls' resp. 'dead man' UP or DOWN. If the door operates in 'impuls' mode, it can be stopped anytime with the STOP button.

For the operation from outside you can use several operation elements like e.g. a triple push button unit.

A pull switch installed inside or outside controls the door in functions UP-STOP-DOWN.

If a radio modul is installed, the UP movement can be started via radio.  
Stopping of the door via radio is always possible.

**Note: DC 3 ECO is only compatible with Comfort Module „S1“ !**

## Functions traffic light

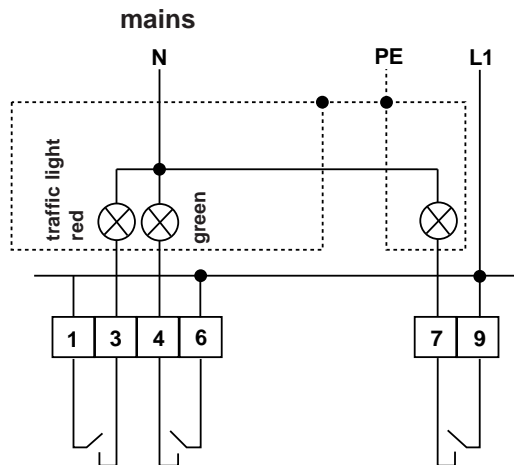
Function traffic light - RED	Standard	Function France
door closed	5 seconds post illumination period	5 seonds post illumination period
door movement	permanent RED	3 sec. prewarning by flashing, then permanent RED during doormovement
door in part open position (not half or fully open)	permanent RED	permanent RED
Prewarning autom. closing function	3 seconds flashing	3 seonds flashing
If a malfunction is indicated by the red LED, it is signaled by flashing of the RED-traffic light, if the <b>Dip-Switch 1</b> is set in function „traffic light“ .		
<b>traffic light - GREEN</b>		
door in position half open (position of select switch) a keep open time is set or the timer has operated	traffic light GREEN permanent	traffic light GREEN permanent
door in position full open (position of select switch) a keep open time is set or the timer has operated	traffic light GREEN permanent	traffic light GREEN permanent

**Dip-Switches Comfort module - see backpage !!**

## Connecting a traffic light

It is possible to connect a RED or a combination of RED/GREEN traffic lights.

To improve the lifetime of the traffic light bulb it is possible to connect a resistor  $39\Omega/2$  watts in series with the bulb of the traffic light. This resistor fits to a bulb power of 25 watts (recommended maximum for all geba traffic lights). In addition to the traffic light it is possible to control an external light source.



## Position of jumpers on the main board for safety edge

- |    |                |                             |    |    |      |
|----|----------------|-----------------------------|----|----|------|
| 1. | not connected: | opto-electronic safety edge | UK | UP | DOWN |
|    | connected:     | resistor 8,2 k $\Omega$     | •  | •  | •    |
| 2. | not connected: | dead man UP - direction     | •  | •  | •    |
|    | connected:     | impuls UP - direction       | •  | •  | •    |
| 3. | not connected: | dead man DOWN - direction   | •  | •  | •    |
|    | connected:     | impuls DOWN - direction     | 1  | 2  | 3    |

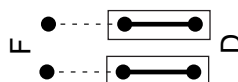


**If the Comfort module is connected the jumpers 2 and 3 must be removed.**

## Version France

Only if the Comfort module is connected. The dotted lined bridges have to be connected - door movement with pre-warning.

Before the door moves a pre-warning  
- 3 seconds flashing of red traffic light - is given.

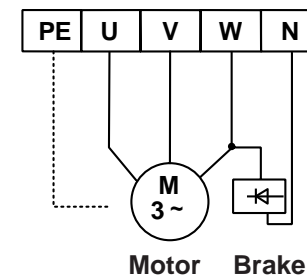


## Connecting the mains cable

On the terminals L1, L2, L3, N and PE of the mainboard the mains cable has to be connected. The value of the external fuses must be adapted to the connected motor. If the motor is blocked it has to activate the external fuses.

## Connecting a 3-Phase motor

The 3-Phase motor is connected to U, V, W and PE. If the motor has an electric brake then the brake has to be connected to the terminals W & N.



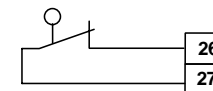
## Changing the run direction

After the motor is connected to U, V, W & PE you must control the run direction with the UP & DOWN push buttons. If the run direction does not match the push buttons arrow then you have to exchange the wires on the terminals U & V.

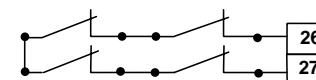
**Attention: Attend to the run direction of the limit switches !!**



**Connection emergency STOP, wire rope failure device & sectional door spring rope failure device.**



**If you want to connect more than one safety element to the terminals 26/27 they must be connected in series.**

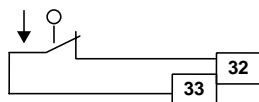


### Connecting of limit switches

The potentialfree limit switches UP & DOWN are connected to the terminals 30 & 31 (UP) and 32 & 33 (DOWN).



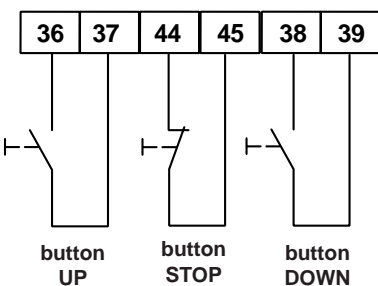
Connection limit switch UP



Connection limit switch DOWN

### Connecting external push-buttons UP, STOP, DOWN

For the use from outside of the DC 3 an external 3x pushbutton unit (e.g. KDT-3) can be connected



The two pushbuttons UP and DOWN have to be **N.O.** contact. If the STOP function is connected in the safety circle, it has to be **N.C.** contact.

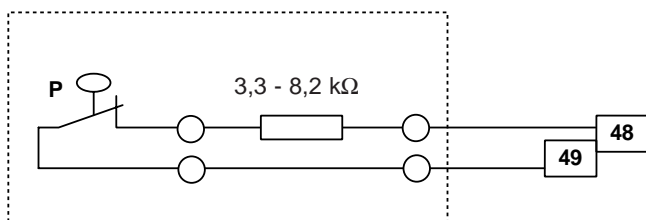
external push button unit

### Connection safety edge (optional, only if Comfort module is connected!)

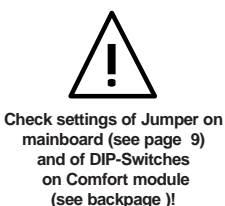
The controlling of the safety edge is managed by the Comfort module and therefore there is no need for an additional safety edge controller device. According to the EU regulations it is necessary to test the pneumatic safety edge on EVERY door cycle, therefore it is possible to connect a pre-limit switch to the DC 3, which starts the intelligent test procedure (resp. with an electric safety bar, changes the the function from „STOP with reverse“ to „STOP“).

### Connecting an electro mechanical safety edge (optional, only if Comfort modul is connected!)

In order to test the complete circuit of the pneumatic safety edge, it is necessary to connect (on the inside of the pressure switch enclosure) a resistor (3,3 up 8,2 kΩ) in series with the normally closed contact of the pressure switch.

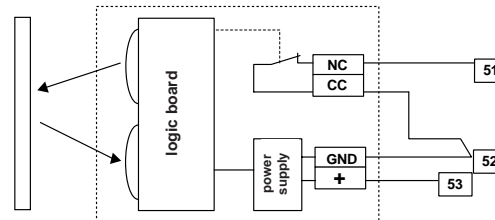


Connection of a electro-mechanical safety edge



### Connecting a photo-cell

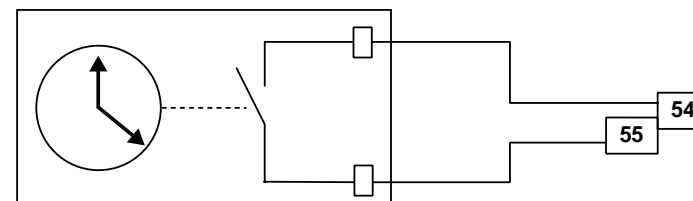
To connect a photo-beam to cover the 'drive through' area the photo-beam is connected to the terminals 51, 52 & 53. If the infrared beam of the photo-beam is broken during the DOWN direction the door will stop and reverse to a fully open position. It is possible to configure the Comfort module so that when the photo-beam is activated by traffic the automatic closing time is reduced to 5 seconds.



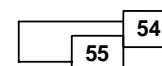
Using a photo-cell with receiver and transmitter, the power supply is connected to the terminals 52 & 53.

### automatic closing function (ON /OFF)

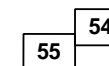
It is possible to switch or switch off the automatic closing time by connecting an external timer to the screw terminals 54 & 55.



In the event of the automatic closing function being switched on permanently the screw terminals 54 & 55 have to be bridged.



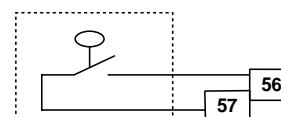
automatic closing function ON



automatic closing function OFF

### Connecting a pull switch

On the screw terminals 56 & 57 a pull switch (NO contact) can be connected.



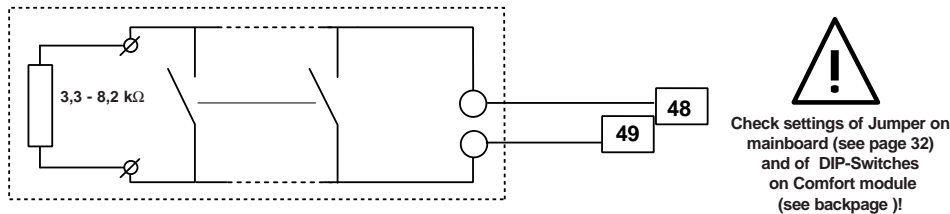
connection pull switch

The function of the pull switch is UP/STOP/DOWN/STOP.

## Connecting an electro mechanical safety edge

The controlling of the safety edge is managed by the Comfort module and there is therefore no need for an additional safety edge controller.

For this purpose the DC 3 has an intelligent testing device which recognises when the door has finished the closing cycle. In order to check it is necessary to connect a resistor on the opposite end of the safety edge (cable connection).

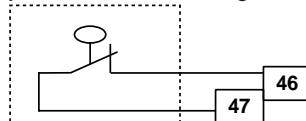


Connection of a electro-mechanical safety edge

## Connection pre-limit switch if using an electric- or opto-electronic safety edge

Because the function of the safety-edges is automatically checked by the Comfort module there is normally no need to test it. In this case the screw terminals 46 & 47 of the pre-limit switch can be bridged. In situations where the rubber of the safety edge needs to touch the ground you have to control this with a pre-limit switch (adjustment 5 cm above ground), thus preventing the door to stop and return.

Connection of bridge on terminals 46 & 47 pre-limit switch.



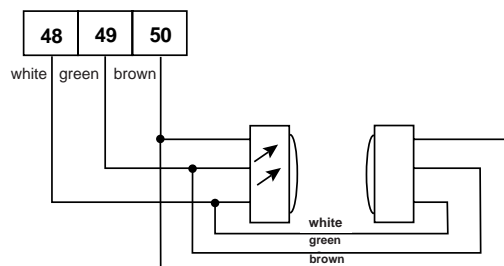
## Connecting an opto-electric FRABA-Safety edge

It is possible to connect to the DC 3 an electric, pneumatic or opto-electronic (FRABA) type Safety Edge device directly to the terminals 48, 49 & 50 without any specific control boxes.

The controlling of the safety edge is managed by the Comfort module and therefore there is no need for an additional safety edge management device.

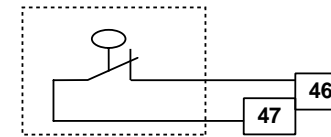
### Opto-electric safety edge - FRABA

terminal 48 = Safety edge (-GND)  
terminal 49 = Safety edge (Signal)  
terminal 50 = Safety edge (+ 15V)



## Mounting of pre-limit switch

The pre-limit switch has to be mounted at the door guides, so that the closing door reaches the pre-limit switch (e.g. extra pre-limit switch PS-ECO) about 5 cm above the ground. After the pre-limit switch has reacted the unit controls the exact reaction of the safety edge as well as the opening of the limit switch in DOWN direction. The pre-limit switch can also be realized by an additional opener contact, the contact must open about 5 cm above the ground.

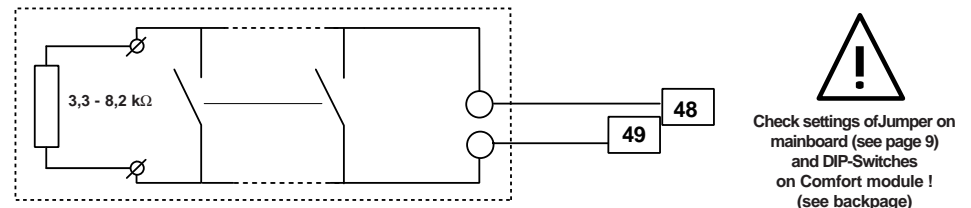


Connection pre-limit switch

## Connecting an electro mechanical safety edge (optional, only if Comfort module is connected!)

The controlling of the safety edge is managed by the Comfort module and there is therefore no need for an additional safety edge management device. According to the EU regulations it is necessary to test the pneumatic type safety edge on EVERY movement cycle. For this purpose the DC 3 has an intelligent testing device which recognises when the door has finished the closing cycle.

In order to check it is necessary to connect a resistor on the opposite end of the safety edge (cable connection).



Connection of an electro-mechanical safety edge



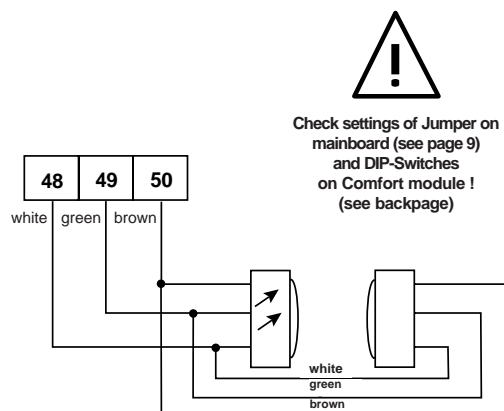
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### Opto-electric safety edge - FRABA

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terminal 49 = Safety edge (Signal)  
terminal 50 = Safety edge (+ 15V)

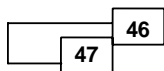


## Connection pre-limit switch if using an electric- or opto-electronic safety edge

Because the function of the safety-edges is automatically checked by the Comfort module there is normally no need to test it.

In this case the screw terminals 46 & 47 of the pre-limit switch can be bridged.

In situations where the rubber of the safety edge needs to touch the ground you have to control this with a pre-limit switch (adjustment 5 cm above ground), thus preventing the door to stop and return.



Connection of bridge on terminals 46 & 47 - pre-limit switch.

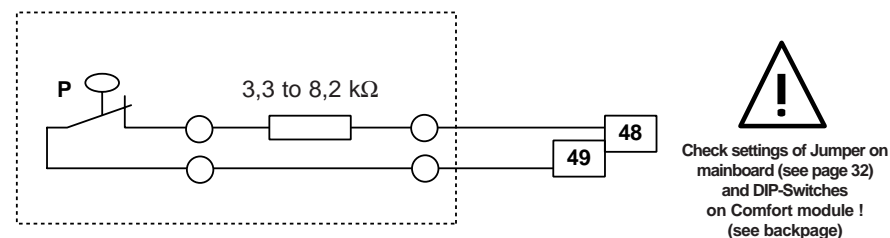
## Connection safety edge (optional, only if Comfort module is connected!)

The controlling of the safety edge is managed by the Comfort module and therefore there is no need for an additional safety edge controller device. According to the EU regulations it is necessary to test the pneumatic safety edge on EVERY door cycle.

For this purpose the DC 3 has an intelligent testing device which recognises when the door has finished the closing cycle.  
(resp. switches from „STOP with reverse“ to „STOP“ - electr. safety edge).

### Connection of a pneumatic safety edge

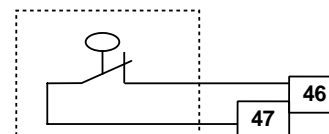
In order to test the complete circuit of the pneumatic safety edge, it is necessary to connect (on the inside of the pressure switch enclosure) a resistor (3,3 to 8,2 kΩ) in series with the normally closed contact of the pressure switch.



Connection of pressure switch (pneum. safety edge)

## Connecting the pre-limit switch

The pre-limit switch has to be mounted at the door guides, so that the closing door reaches the pre-limit switch (e.g. extra pre-limit switch PS-ECO about 5 cm above the ground. After the pre-limit switch has reacted the unit controls the exact reaction of the safety edge as well as the opening of the limit switch in DOWN direction. The pre-limit switch can also be activated by an additional N.C. contact, the contact must open about 5 cm above the ground.



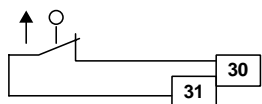
Connection of bridge on terminals 46 & 47 pre-limit switch.



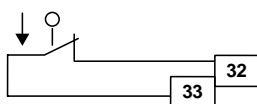
### Connecting the limit switches

The two limit switches UP and DOWN have to be connected as potentialfree contacts at the screw terminals 30/31 (UP) and 32/33 (DOWN).

It is possible to connect a second limit switch to the DC 3 de Luxe for the UP direction. Two different UP positions can be chosen on the front of housing (summer-/winter position).



Connection limit switch UP 1



Connection limit switch DOWN



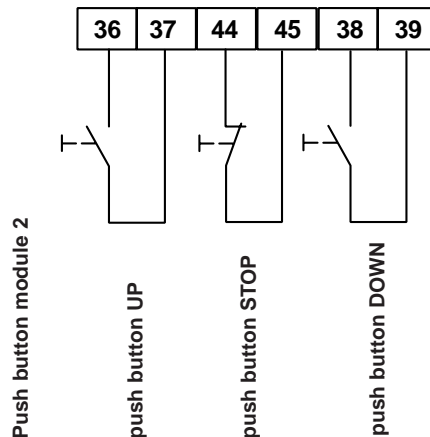
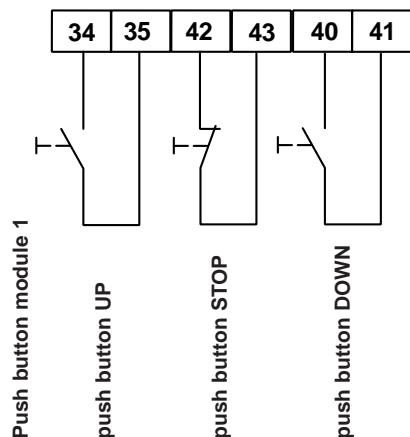
Connection limit switch UP 2  
(e.g. half open)

### Connecting external push-buttons UP, STOP, DOWN

For the use from outside of the DC 3 an external switch (e.g. key-switch) can be connected. The push buttons UP and DOWN must have closing function. As the STOP function is connected in the safety circle, it has to be connected as an opener. In case two 2x push-buttons are connected, STOP inside and STOP outside must be switched in serial mode.

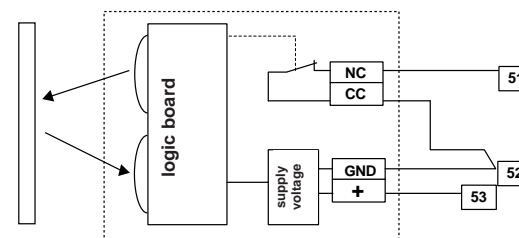
It is not possible to use the switch in case of malfunction of a security device (Danger area not visible) - optional, only if Comfort module is connected 5V DC/ e.g. Schleifendetektoren.

The Danger area has to be visible, dead-mans function is possible 24V DC/ e.g. 3x push button.



### Connecting a photo-cell (optional, only if Comfort module is connected!)

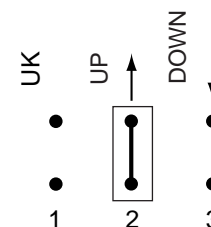
To connect a photo-beam to cover the 'drive through' area the photo-beam is connected to the terminals 51, 52 & 53. If the infrared beam of the photo-beam is broken during the DOWN direction the door will stop and reverse to a fully open position.



Using a photo-cell with receiver and transmitter, the power supply is connected to the terminals 52 & 53.

### Position of jumpers on the main board for safety edge

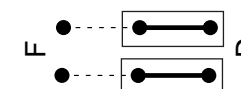
- |    |                |                             |
|----|----------------|-----------------------------|
| 1. | not connected: | opto-electronic safety edge |
|    | connected:     | resistor 8,2 kΩ             |
| 2. | not connected: | dead man UP - direction     |
|    | connected:     | one touch UP - direction    |
| 3. | not connected: | dead man DOWN - direction   |
|    | connected:     | one touch DOWN - direction  |



If the Comfort module is connected the jumpers 2 and 3 must be removed.








### Jumper F - D (DC 3 ECO)

The two jumpers F-D must remain in position D. There is no pre-warning element connectable.



### Control lamp (optional, only if Comfort module is connected!)

The red LED indicates the most important faults with a flash code:

pre-limit switch defective	1 x flashing	
safety edge defective	2 x flashing	
limit-switch bottom defective	3 x flashing	
safety edge activated	4 x flashing	
photo beam defectivet resp. light beam interrupted	5 x flashing	
safety photo beam activated	6 x flashing	
safety chain interrupted	7 x flashing	

### Function of LED GREEN:

LED flashes	= door moves „DOWN“
LED briefly illuminated	= door is „CLOSED“

### Caution:

During installation all elements have to be switched tension-free  
All installations and service works have to be done by authorized personell only.  
The relevant national and local standards and guidelines have to be respected.

### Technical Data:

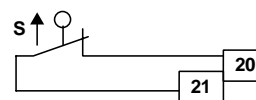
Supply voltage	3 x 400 V AC 50 Hz 15 A
Outputs motor	2 x 3 NO relay contacts, 400 V / 6 A
Wiring	1.5 mm <sup>2</sup> max.,
Operating- temperature	-20 °C to +60 °C

### Connection of primary safety elements

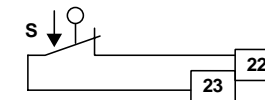
Safety elements which could affect the contactor directly are connected to a separate terminal block. These elements, for example the emergency stop, wire rope failure device (door catcher), safety device to prevent human entrapment (anti-trapping device) & 'Wicket Gate' entrance contacts and also the security limit switches (UP & DOWN) are connected to a separate terminal block.

### Connection security limit switches

The security limit switches UP & DOWN have to be connected to the terminals 20/21 & 22/23. If the motor has only 2 wires for the security limit switches then they are connected to 22/23 & the terminals 20/21 have to be bridged or could be used for another safety device.



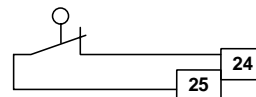
Connection security limit switch  
UP



Connection security limit switch  
DOWN

### Connection Trademans Entrance/ Lifting wire safety functions

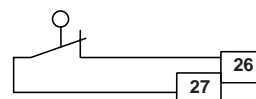
On doors with a built in 'Wicket Gate' the safety switch is connected with the terminals 24 & 25.



Connection motor thermoswitch

### Connection emergency stop, wire rope failure device & sectional door spring rope failure device

The safety devices are connected to terminals 26 & 27.



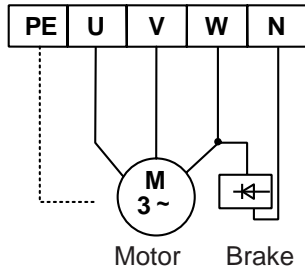
Connection emergency stop  
& wire rope failure

### Connecting the mains cable

On the terminals L1, L2, L3, N and PE of the mainboard the mains cable has to be connected. The value of the fuse must be adapted to the connected motor. If the motor is blocked it has to activate the fuse.

### Connecting a 3-Phase motor

The 3-Phase motor is connected to U, V, W and PE. If the motor has an electric brake then the brake has to be connected to the terminals W & N of the Brake Module.



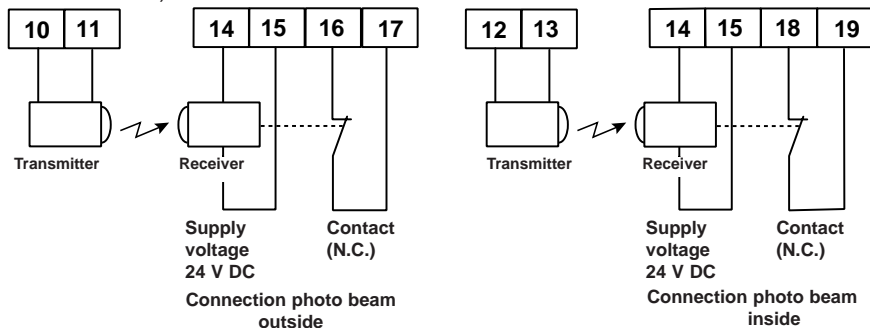
### Changing the run direction

After the motor is connected to U, V, W & PE you must control the run direction with the UP & DOWN push buttons. If the run direction does not match the push buttons arrow then you have to exchange the wires on the terminals U & V.

**Attention: Attend to the run direction of the limit switches !!**

### Connecting safety device (anti-trapping)

As safety elements you can use electromechanical elements as well as photo beams (opto electric elements).



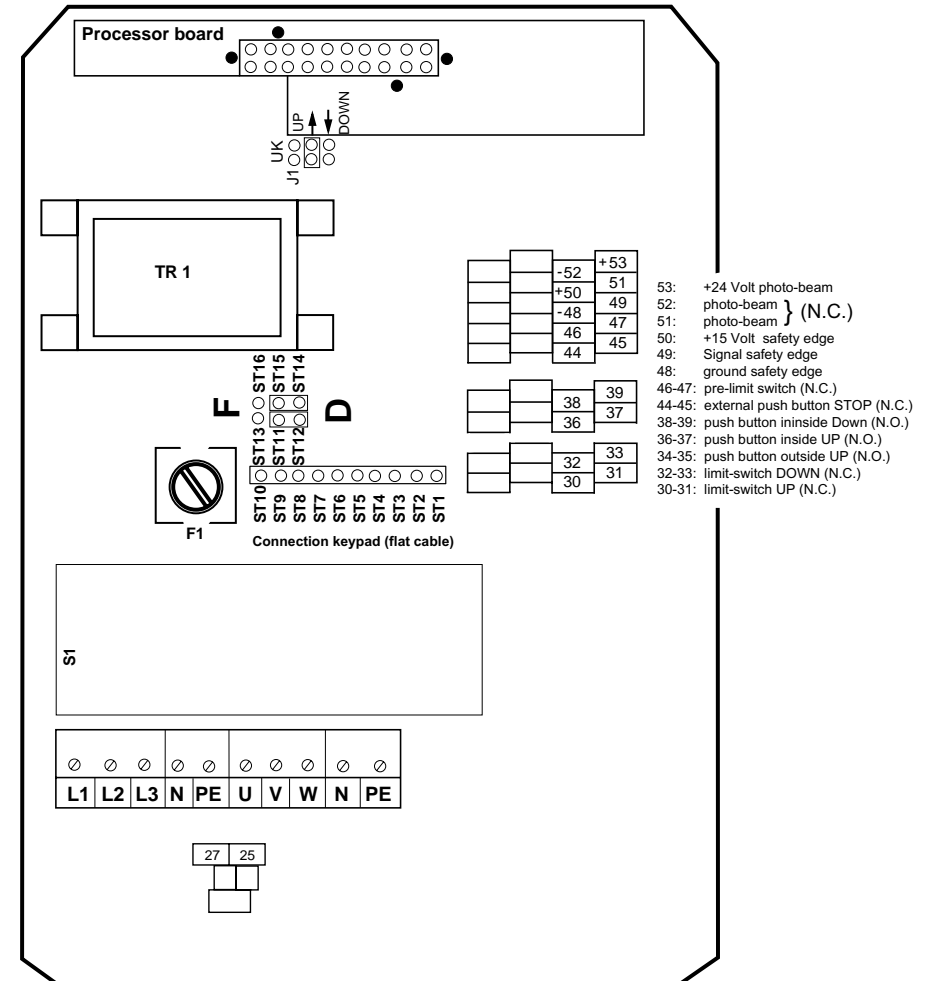
While using not failure proofed photocells as anti-trapping device it is not necessary to use Comfort module „S2“ and set the testing corresponding to the installation (see backpage).

On the screw terminals 14 (-24V) and 15 (+24V) there is another power supply output available (Receiver safety photo beam)

**Important: Maximum current consumption on all power supply outputs is 500mA.**



### Connection diagramme mainboard - DC 3 ECO



## Instructions for Assembly and Use

### Industrial Door Control DC 3 Standard

Art. 509.3100.40

The door control **DC 3 Standard** is provided for the operation of sectional-, rollershutter-, folding- and swingdoors.

All standard safety elements connectable.

By using the pushbutton elements on the housing there is no need to mount a triple pushbutton unit inside.

To open or close the door just push the corresponding button of the remote control resp. the button on the DC 3 - housing or on the outside push button unit.

If a radio- and Comfort module is installed the door can also be started or stopped via hand-held transmitter.

The most important characteristics of the **DC 3 Standard** are:

- Simple operation, programming and assembly.
- Water-protected enclosure (IP65)
- Enough space for cabling
- A maximum of safety:
  - radio control (with Hopping Code) - optional
  - referring to EU-guidelines for doors and shutters
  - several safety elements connectable

## Description of the Appliance

### Appliance according to the regulations

The door control **DC 3 de Luxe** is provided for the operation of sectional-, rollershutter-, folding- and swingdoors.

### Security devices

The manufacturer of the complete installation is responsible. He must take care that the relevant standards and guidelines (e.g. DIN 1986, EN 12050) have to be respected. He must take care that a technical documentation of the whole installation is made available.



The technical documentation must be added to the door unit.

This symbol in the manual indicates a possible danger hint, which is described detailed in this manual.

Installation, operating and use of the unit against this manual or the described technical specifications causes danger for persons and produces a liability- and obligations release.

National and regional precautions and standards for the installation, as well as safety precautions of local technical standards have to be respected.

### Operation elements

With the pushbuttons elements on the front, the door is operated in 'impuls' resp. 'dead man' UP or DOWN. If the door operates in 'impuls' mode, it can be stopped anytime with the STOP button.

For the operation from outside you can use several operation elements like e.g. a triple push button unit.

A pull switch installed inside or outside controls the door in functions UP-STOP-DOWN.

If a radio modul is installed, the UP movement can be started via radio. Stopping of the door via radio is always possible.

## Instructions for Assembly and Use

### Industrial Door Control

#### DC 3 de Luxe

Art. 509.3200.40

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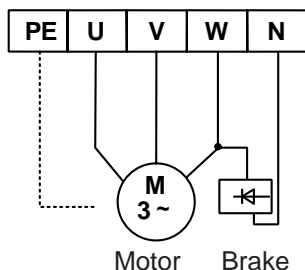
If a radio modul is installed, the UP movement can be started via radio. Stopping of the door via radio is always possible.

### Connecting the mains cable

On the terminals L1, L2, L3, N and PE of the mainboard the mains cable has to be connected. The value of the fuse must be adapted to the connected motor. If the motor is blocked it has to activate the fuse.

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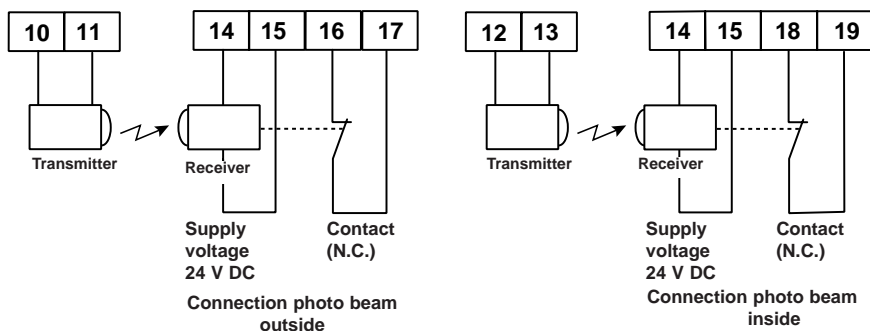
### Changing the run direction

After the motor is connected to U, V, W & PE you must control the run direction with the UP & DOWN push buttons. If the run direction does not match the push buttons arrow then you have to exchange the wires on the terminals U & V.

**Attention: Attend to the run direction of the limit switches !!**

### Connecting safety device (anti-trapping)

As safety elements you can use electromechanical elements as well as photo beams (opto electric elements).



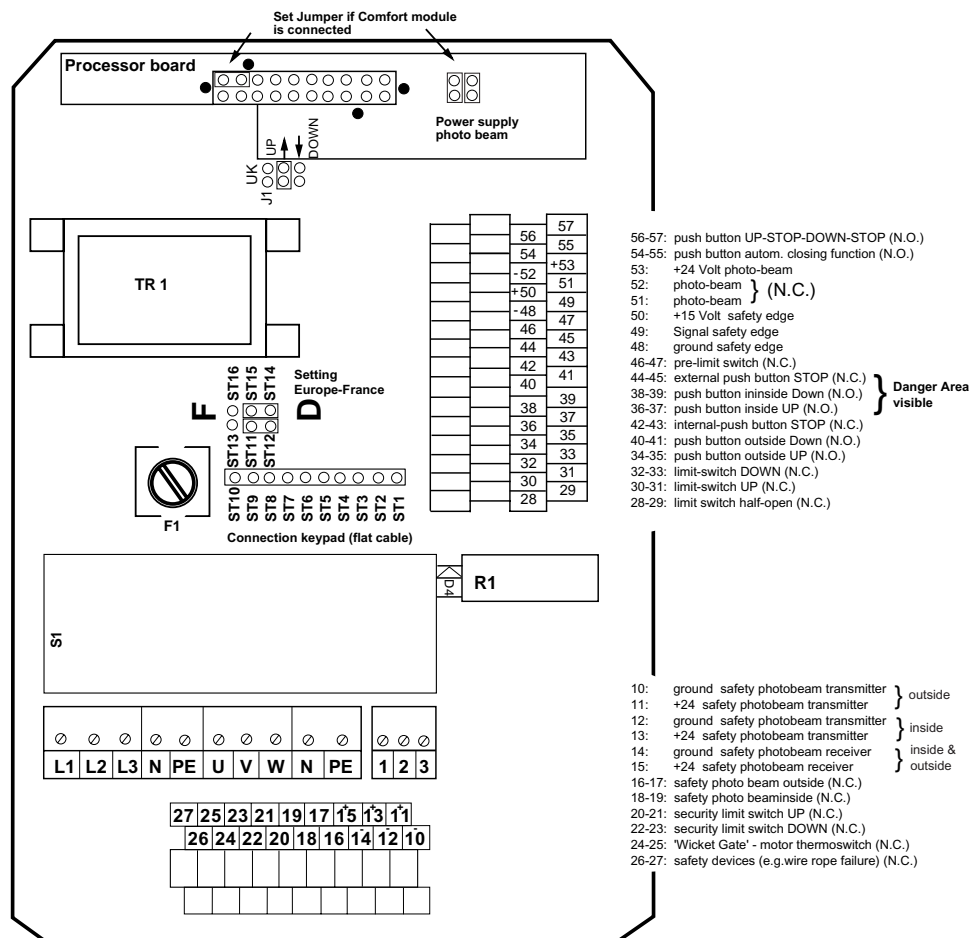
While using not failure proofed photocells as anti-trapping device it is not necessary to use Comfort module „S2“ and set the testing corresponding to the installation (see backpage).

On the screw terminals 14 (-24V) and 15 (+24V) there is another power supply output available (Receiver safety photo beam)

**Important: Maximum current consumption on all power supply outputs is 500mA.**









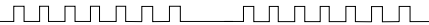

### Connection diagramme mainboard - DC 3 Standard



Standard

### Control lamp (optional, only if Comfort module is connected!)

The red LED indicates the most important faults with a flash code:

pre-limit switch defective	1 x flashing	
safety edge defective	2 x flashing	
limit-switch bottom defective	3 x flashing	
safety edge activated	4 x flashing	
photo beam defectivet	5 x flashing	
resp. light beam interrupted		
safety photo beam activated	6 x flashing	
safety chain interrupted	7 x flashing	
Failure safety photo beam	cont. flashing	 only S2

<b>Function of LED GREEN:</b>	LED flashes	= door moves „DOWN“
	LED briefly illuminated	= door is „CLOSED“

### Caution:

During installation all elements have to be switched tension-free  
All installations and service works have to be done by authorized personell only.  
The relevant national and local standards and guidelines have to be respected.

### Technical Data:

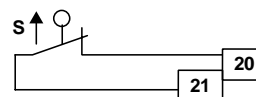
Supply voltage	3 x 400 V AC 50 Hz 15 A
Outputs motor	2 x 3 NO relay contacts, 400 V / 6 A
Wiring	1.5 mm <sup>2</sup> max.,
Operating-temperature	-20 °C to +60 °C

### Connection of primary safety elements

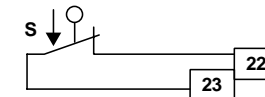
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The security limit switches UP & DOWN have to be connected to the terminals 20/21 & 22/23. If the motor has only 2 wires for the security limit switches then they are connected to 22/23 & the terminals 20/21 have to be bridged or could be used for another safety device.



Connection security limit switch  
UP



Connection security limit switch  
DOWN

### Connection Trademans Entrance/ Lifting wire safety functions

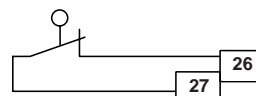
On doors with a built in 'Wicket Gate' the safety switch is connected with the terminals 24 & 25.



Connection motor thermoswitch

### Connection emergency stop, wire rope failure device & sectional door spring rope failure device

The safety devices are connected to terminals 26 & 27.

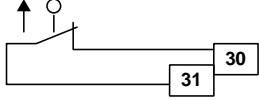


Connection emergency stop  
& wire rope failure

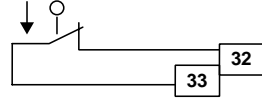


### Connecting of limit switches

The potential-free limit switches UP & DOWN are connected to the terminals 30 & 31 (UP) and 32 & 33 (DOWN).



Connection limit switch UP



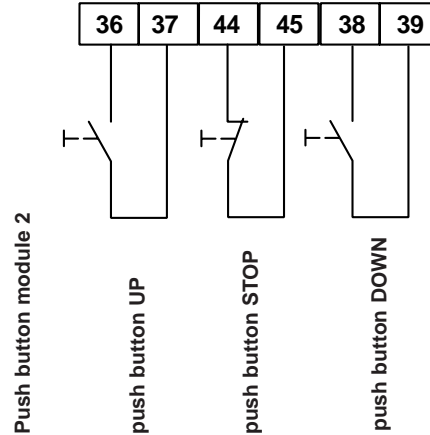
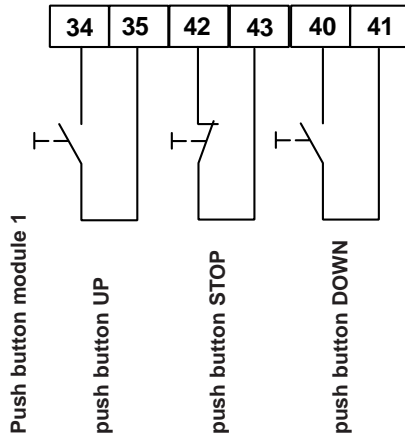
Connection limit switch DOWN

### Connecting external push-buttons UP, STOP, DOWN

For the use from outside of the DC 3 an external switch (e.g. key-switch) can be connected. The pushbuttons UP and DOWN must have closing function. As the STOP function is connected in the safety circle, it has to be connected as an opener. In case two 2x push-buttons are connected, STOP inside and STOP outside must be switched in serial mode.

It is not possible to use the switch in case of malfunction of a security device (Danger area not visible) - optional, only if Comfort module is connected 5V DC/  
e.g. Schleifendetektoren.

The Danger area has to be visible, dead-mans function is possible 24V DC/ e.g. 3x push button.



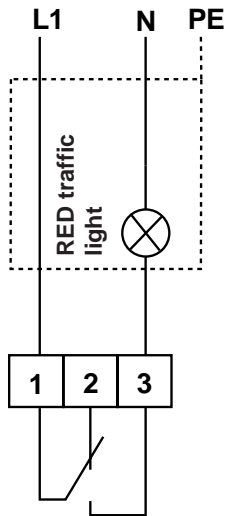
### Functions traffic light

Function traffic light - RED	Standard	Function France
door closed	5 seconds post illumination period	5 seconds post illumination period
door movement	permanent RED	3 sec. prewarning by flashing, then permanent RED during doormovement
door in part open position (not half or fully open)	permanent RED	permanent RED
Prewarning autom. closing function	3 seconds flashing	3 seconds flashing
If a malfunction is indicated by the red LED, it is signaled by flashing of the RED-traffic light, if the <b>Dip-Switch 1</b> is set in function „traffic light“.		
<b>traffic light - GREEN</b>		
door in position half open (position of select switch) a keep open time is set or the timer has operated	traffic light GREEN permanent	traffic light GREEN permanent
door in position full open (position of select switch) a keep open time is set or the timer has operated	traffic light GREEN permanent	traffic light GREEN permanent

**Dip-Switches Comfort module - see backpage !!**

## Connecting a traffic light

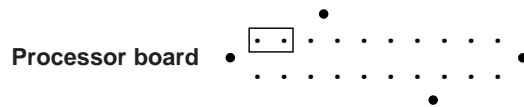
With the DC 3 Standard it is possible to switch a RED traffic light directly.



To improve the lifetime of the traffic light bulb it is possible to connect a resistor  $39\Omega/2$  watts in series with the bulb of the traffic light. This resistor fits to a bulb power of 25 watts (recommended maximum for all geba traffic lights).

If a Comfort module is connected the RED traffic light is controlled directly.

### Jumper for RED traffic light without Comfort Modul



Using a DC 3 Standard **without** Comfort module the RED traffic light may be connected by an additional limit switch via (N.C.), using the terminals 54/55. In this case the jumpers on the processor board have to be set.

## Position of jumpers on the main board for safety edge

- |    |                |                               |    |    |      |
|----|----------------|-------------------------------|----|----|------|
| 1. | not connected: | opto-electronic safety edge   | UK | UP | DOWN |
|    | connected:     | resistor $8,2\text{ k}\Omega$ |    |    |      |
| 2. | not connected: | dead man UP - direction       | ●  | ●  | ●    |
|    | connected:     | impuls UP - direction         |    |    |      |
| 3. | not connected: | dead man DOWN - direction     | ●  | ●  | ●    |
|    | connected:     | impuls DOWN - direction       | 1  | 2  | 3    |

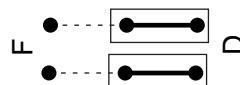


**If the Comfort module is connected the jumpers 2 and 3 must be removed.**

## Version France

Only if the Comfort module is connected. The dotted lined bridges have to be connected - door movement with pre-warning.

Before the door moves a pre-warning  
- 3 seconds flashing of red traffic light - is given.



## Connection safety edge (optional, only if Comfort module is connected!)

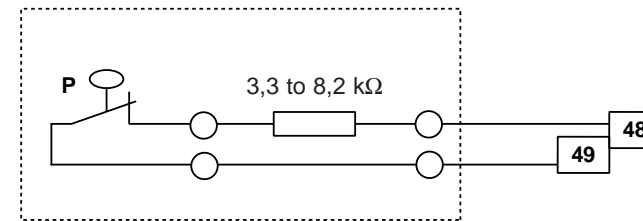
The controlling of the safety edge is managed by the Comfort module and therefore there is no need for an additional safety edge controller device. According to the EU regulations it is necessary to test the pneumatic safety edge on EVERY door cycle.

For this purpose the DC 3 has an intelligent testing device which recognises when the door has finished the closing cycle.

(resp. switches from „STOP with reverse“ to „STOP“ - electr. safety edge).

## Connecting a pneumatic safety edge (optional, only if Comfort module is connected!)

In order to test the complete circuit of the pneumatic safety edge, it is necessary to connect (on the inside of the pressure switch enclosure) a resistor ( $3,3$  to  $8,2\text{ k}\Omega$ ) in series with the normally closed contact of the pressure switch.

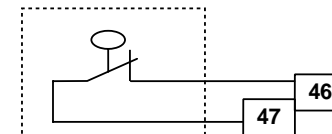


Check settings of Jumper on mainboard (see page 20) and DIP-Switches on Comfort module ! (see backpage)

## Connection of pressure switch (pneum. safety edge)

## Connecting the pre-limit switch

The pre-limit switch has to be mounted at the door guides, so that the closing door reaches the pre-limit switch (e.g. extra pre-limit switch PS-ECO about 5 cm above the ground. After the pre-limit switch has reacted the unit controls the exact reaction of the safety edge as well as the opening of the limit switch in DOWN direction. The pre-limit switch can also be activated by an additional N.C. contact, the contact opens about 5 cm above the ground.

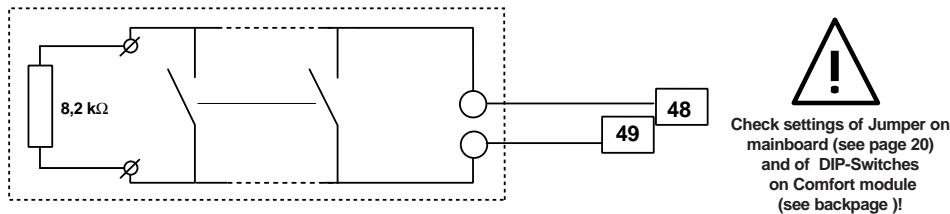


## Connection of bridge on terminals 46 & 47 pre-limit switch.

### Connecting an electro mechanical safety edge (optional, only if Comfort module is connected!)

The controlling of the safety edge is managed by the Comfort module and there is therefore no need for an additional safety edge controller.

For this purpose the DC 3 has an intelligent testing device which recognises when the door has finished the closing cycle. In order to check it is necessary to connect a resistor on the opposite end of the safety edge (cable connection).

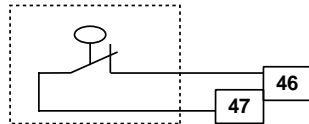


### Connection of an electro-mechanical safety edge

#### Connection pre-limit switch if using an electric- or opto-electronic safety edge

Because the function of the safety-edges is automatically checked by the Comfort module there is normally no need to test it. In this case the screw terminals 46 & 47 of the pre-limit switch can be bridged. In situations where the rubber of the safety edge needs to touch the ground you have to control this with a pre-limit switch (adjustment 5 cm above ground), thus preventing the door to stop and return.

#### Connection of bridge on terminals 46 & 47 pre-limit switch.

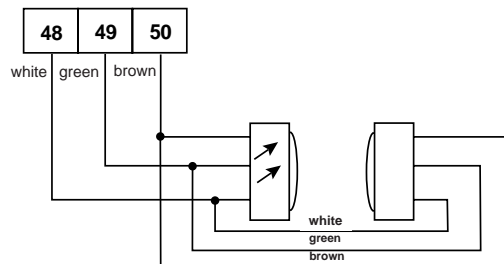


### Connecting an opto-electric FRABA-Safety edge

It is possible to connect to the DC 3 an electric, pneumatic or opto-electronic (FRABA) type Safety Edge device directly to the terminals 48, 49 & 50 without any specific control boxes. The controlling of the safety edge is managed by the Comfort module and therefore there is no need for an additional safety edge management device.

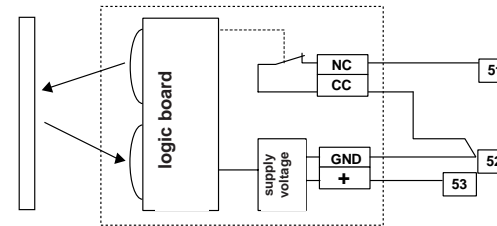
#### Opto-electric safety edge - FRABA

terminal 48 = Safety edge (-GND)  
terminal 49 = Safety edge (Signal)  
terminal 50 = Safety edge (+ 15V)



### Connecting a photo-cell (optional, only if Comfort module is connected!)

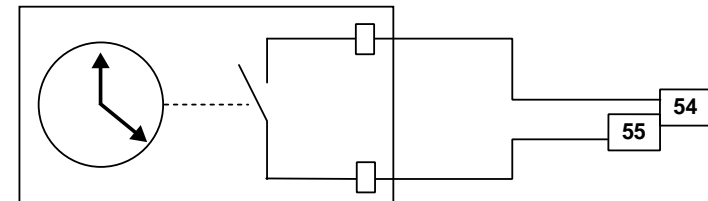
To connect a photo-beam to cover the 'drive through' area the photo-beam is connected to the terminals 51, 52 & 53. If the infrared beam of the photo-beam is broken during the DOWN direction the door will stop and reverse to a fully open position. It is possible to configure the Comfort module so that when the photo-beam is activated by traffic the automatic closing time is reduced to 5 seconds.



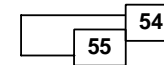
Using a photo-cell with receiver and transmitter, the power supply is connected to the terminals 52 & 53.

#### automatic closing function (ON /OFF)

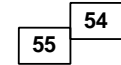
It is possible to switch or switch off the automatic closing time by connecting an external timer to the screw terminals 54 & 55.



In the event of the automatic closing function being switched on permanently the screw terminals 54 & 55 have to be bridged.



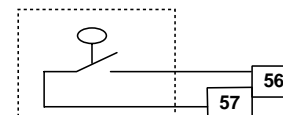
#### automatic closing function ON



#### automatic closing function OFF

### Connecting a pull switch

On the screw terminals 56 & 57 a pull switch (NO contact) can be connected.



#### connection pull switch

The function of the pull switch is UP/STOP/DOWN/STOP.