

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:	Display of door position Trafficlightcontrol red/green		1x flashing 2x flashing
Switch 2:	Function/ kind of safety edge Attention ! Jumperposition on mainboard!	Diode/resistor with free cruise Diode/resistor with reverse Opto - electronic with free cruise Opto - electronic with reverse pneumatic-test with free cruise pneumatic-test with reverse	1x flashing 2x flashing 3x flashing 4x flashing 5x flashing 6x flashing
Switch 3:	permanent light impuls	3 seconds 255 seconds	1x flashing 2x flashing
Switch 4:	Prewarning for France Attention ! Jumperposition on mainboard!	door moves immediately door moves delayed (France)	1x flashing 2x flashing
Switch 5:	Automatic closing function	Photo beam starts closing time Photo beam sets time to 5 sec.	1x flashing 2x flashing
Switch 6:	Test setting	15 seconds 30 seconds 1 minute 2,50 minutes 4,25 minutes	1x flashing 2x flashing 3x flashing 4x flashing 5x flashing
Switch 7: only comfort module S2	Test outside Test inside/outside Test off		1x flashing 2x flashing 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 - Modular

Traffic Light - Module

Brake - Module

Comfort - Module



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 control unit 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 PCB we grant a warranty of
2 years**

Type: **DC 3 - Modular**

Production date: _____

Sales date: _____

Dealers adress: _____

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 Dip-Switch 1 is set in function „doorposition“ .		
traffic light - GREEN		
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 !!

Notices:

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 defective	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

Function of LED GREEN:

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

Security notices:

During installation the supply voltage has to be switched off.

All installations and service works have to be done by authorized personnel only.

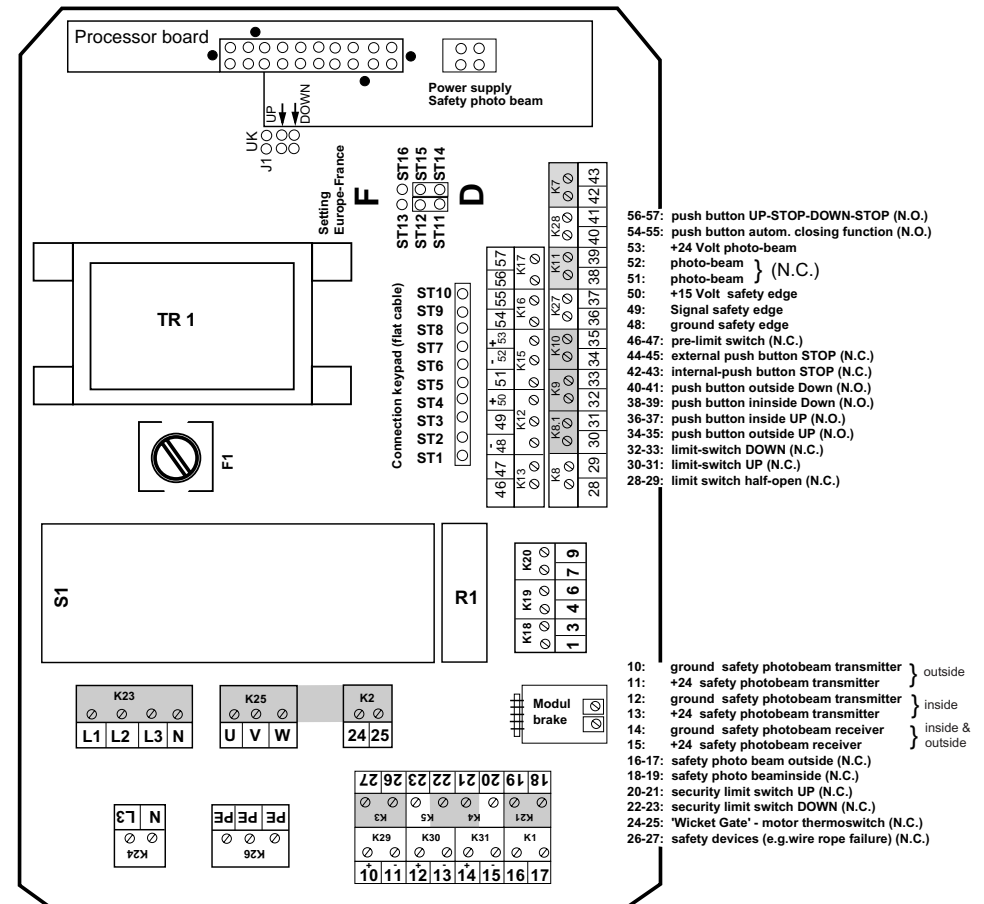
The relevant national and local standards and guidelines have to be respected.

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 ² max.,
Operating-temperature	-20 °C to +60 °C

Connection diagramme - DC3 Modular

All connections in Basic Module are marked **grey** in diagramme!



Description of the Appliance

Appliance according to the regulations

The door control **DC 3 MODULAR** 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 EN 12435, DIN EN 13241) 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 hin, which is described in this manual in detail.

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 standars for the installation, as well as safety precautions of BG have to be respected.

Operation elements

With the push button elements on the front, the door is operated in 'one touch' resp. 'dead man' UP or DOWN. If the door operates in 'one touch' 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.

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

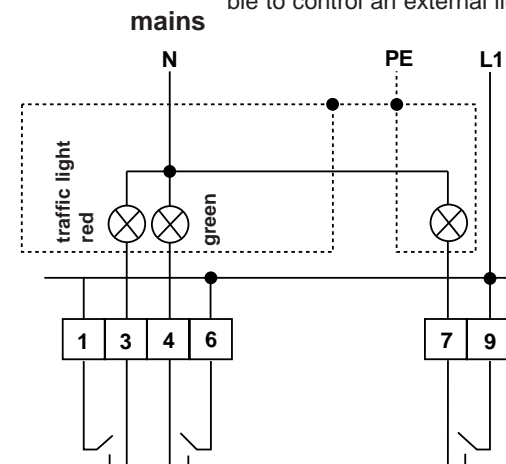
If a radio modul is installed, the UP movement can be started via radio.
Stopping of the door via radio is always possible.

Connecting a traffic light

(optional, only if Comfort module and traffic light module is connected)

In combination with the Comfort module it is possible to connect a RED or 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

	not connected:	connected:	opto-elektronic safety edge resistor $8,2\text{ K}\Omega$	UK	UP	DOWN
1.						
2.				●	●	●
3.				●	●	●
				1	2	3

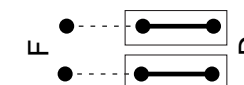


If the Comfort module is connected the jumpers 2 and 3 must be removed.

Version France

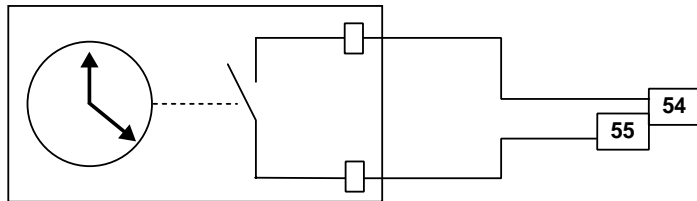
Only if the Comfort module is connected. The dotted lined bridges have to be connected - door movement with pre-warning.

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



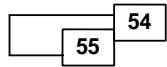
Screw terminals automatic closing function

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

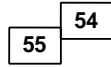


External timer automatic closing function (ON /OFF)

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



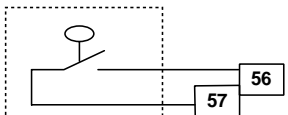
automatic closing function ON



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

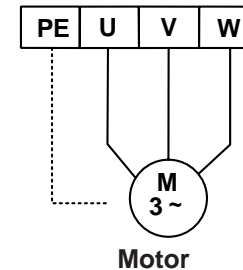
The function of the pull switch is UP/STOP/DOWN/STOP.

Connecting 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.

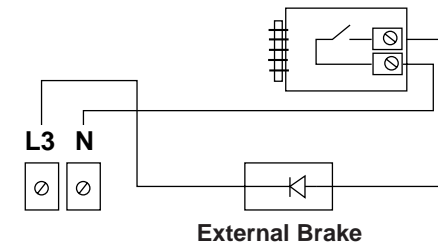
Connecting a 3-Phase motor

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 of the Brake Module.



Motor

Connection External Brake (optional, only with brake-module)



External Brake

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 button arrows then you have to exchange the wires on the terminals U & V.

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

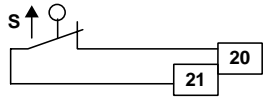


Connection of primary safety elements

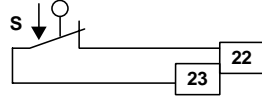
Safety elements which could affect the contactor directly are connected to a separate terminal block. These elements, for example the emergency stop, wire rope failure device (door catcger), safety device to prevent human entrapment (anti-trapping devive) & 'Wicket Gate' entrance contacts and also the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

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.



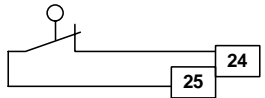
Connection security limit switch
UP



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 safety switch
Trademans Entrance / lifting wire safety functions

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

The safety devices are connected to terminals 26 & 27.



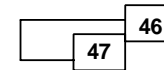
Connection emergency stop
& wire rope failure

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.

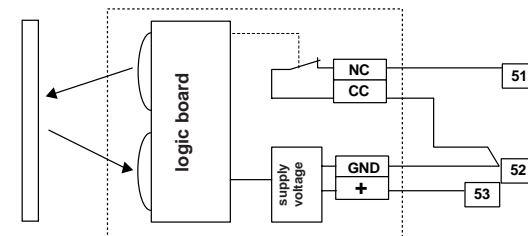
In situations where the rubber of the safety edge touches the ground you have to control this with a pre limit switch (adjustment 5 cm above ground), thus preventing the door to stop and return.



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

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

To connect a photo-beam to cover the 'dive through' area the photo-beam is connected to the terminals 51, 52 & 53. If the infra red beam of the photo-beam is interrupted 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 (theft prevention).



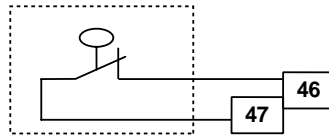
Using a photo-cell with receiver and transmitter, the power supply is connected to the terminals 52 & 53.

If no photo-cell is connected, the terminals 51-52 have to be bridged.

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) 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.



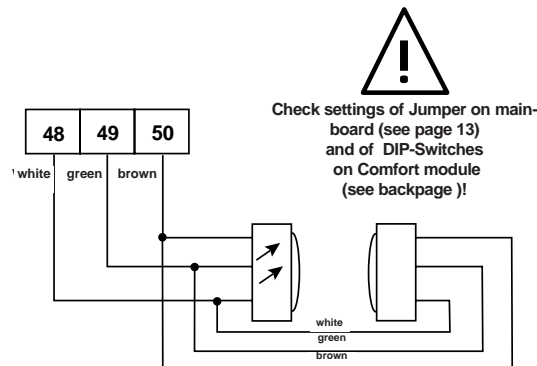
Connection pre-limit switch

Connecting an opto-electric Safety edge

It is possible to connect to the DC3 an electric, pneumatic or opto-electronic type Safety Edge device directly to the terminals 48, 49 & 50 without any specific control boxes.

Opto-electric safety edge

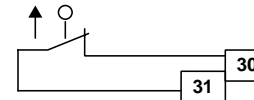
terminal 48 = Safety edge (-GND)
terminal 49 = Safety edge (Signal)
terminal 50 = Safety edge (+ 15V)



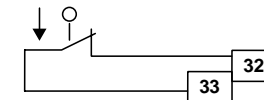
Connection of limit switches

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

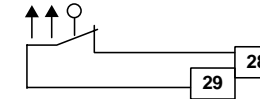
It is possible to connect an additional limit switch „UP“ button station, with the position button on the DC3 housing you can choose between two possible UP positions (summer, winter- cycle).



Connection limit switch UP 1



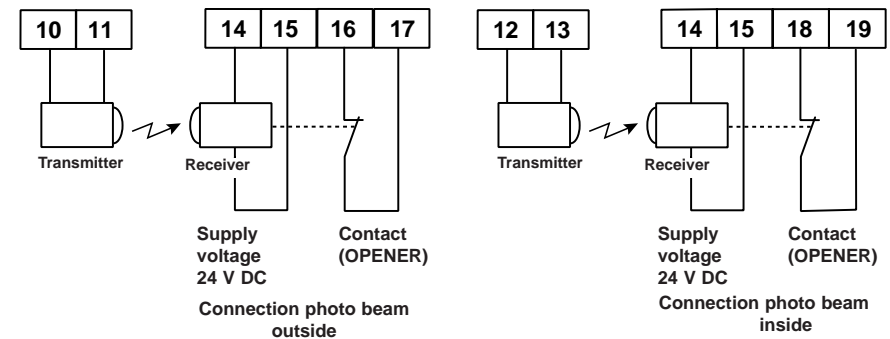
Connection limit switch DOWN



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

Connecting safety device (anti-trapping)

As anti-trapping you can use electromechanical elements as well as photo beams (opto electric elements).



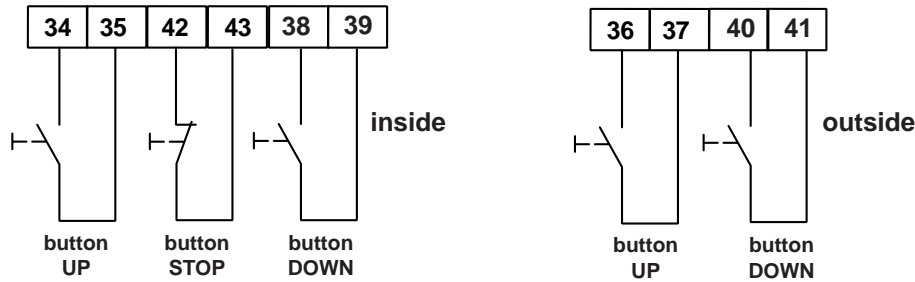
Important:

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



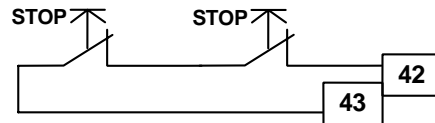
Connecting external push-buttons UP, STOP, DOWN

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



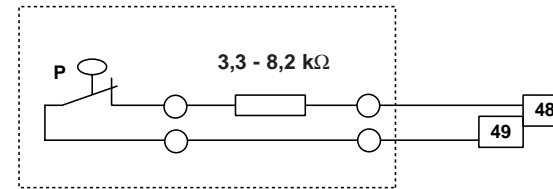
The two pushbuttons UP and DOWN must have closing function. As the STOP function is connected in the safety circle, it has to be connected as an opener.

In case two 2x pushbuttons are connected, STOP inside and STOP outside must be connected in serial mode.



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

According to the EU regulations it is necessary to test the pneumatic type safety edge on EVERY movement cycle. For this purpose the DC3 has an intelligent testing device which recognises when the door has finished the closing cycle. (resp. switches from „STOP with reverse“ to „STOP“ - elektr. 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 - 8,2 k Ω) in series with the normally closed contact of the pressure switch.



Connection of pressure switch (pneum. safety edge)



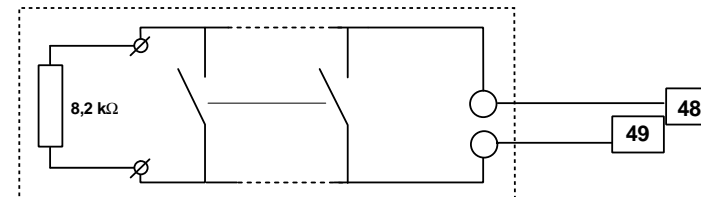
Check settings of Jumper on mainboard (see page 13) and of DIP-Switches on Comfort module (see backpage)!

Connection closing 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.

Connecting an electrical safety edge (optional, only if Comfort module is connected!)

In order to check the electrical safety edge on its full length it is necessary to connect a resistor on the opposite end of the safety edge (cable connection). After the pre-limit switch is activated, the activation of the safety bar is switched from „STOP and REVERSE“ to „STOP“.



Connection of an electrical safety edge



Check settings of Jumper on mainboard (see page 13) and of DIP-Switches on Comfort module (see backpage)!