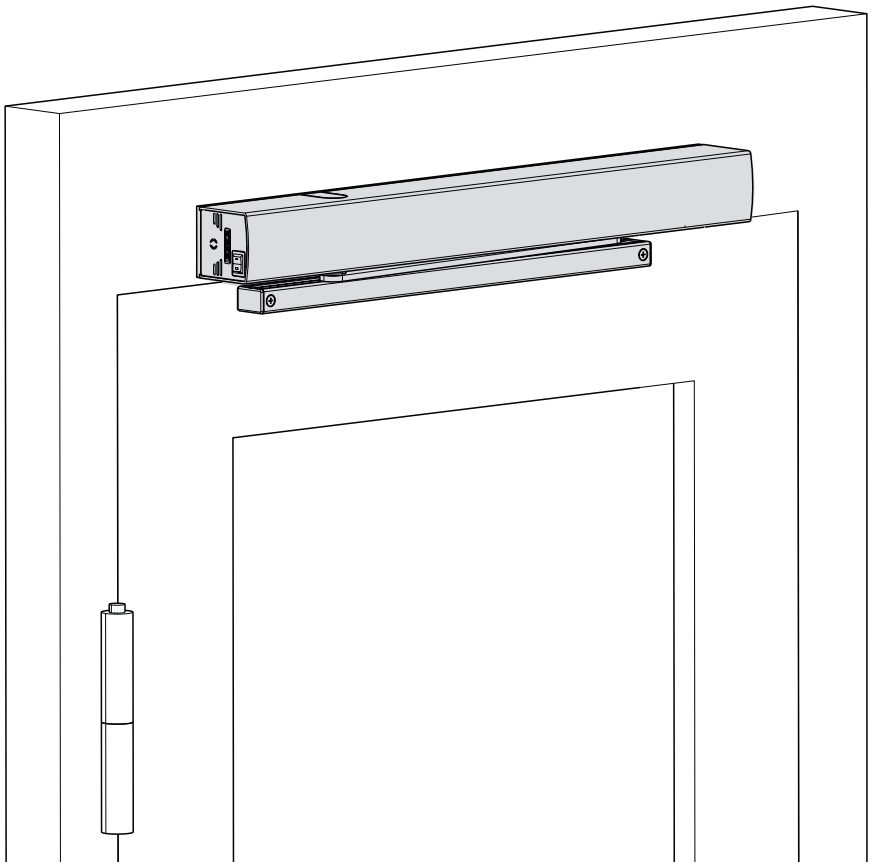


ECturn

GB Wiring diagram

GEZE

Table of contents

1 Symbols and means of representation

1.1 Warnings

In these instructions, warnings are used to warn against material damage and injuries.

- ▶ Always read and observe these warnings.
- ▶ Observe all the measures that are marked with the warning symbol and warning word.

Warning symbol	Warning word	Meaning
	**DANGER**	Danger for individuals. Failure to comply will result in death or serious injuries.
	**WARNING**	Danger for individuals. Failure to comply can result in death or serious injuries.

1.2 Further symbols and means of representation

Important information and technical notes are especially highlighted to explain correct operation.

Symbol	Meaning
	means "important note"
	means "additional information"
▶	**Symbol for an action: Here you have to do something.** ▶ If there are several actions to be taken, keep to the given order.
DIN 18650 EN 16005	Conforms to DIN 18650 / EN 16005
~~DIN 18650~~ ~~EN 16005~~	Does not conform to DIN 18650 / EN 16005
	Do not throw batteries and rechargeable batteries away with household waste

2 Validity

Valid for devices from

- ▫ Hardware: DCU700, Rev B
- ▫ Software: DCU7, V 1.0

3 Product liability

In accordance with the manufacturer's liability for their products as defined in the German "Produkthaftungsgesetz" (Product Liability Act), the information contained in this brochure (product information and proper use, misuse, product performance, product maintenance, obligations to provide information and instructions) is to be noted and followed.
Failure to comply releases the manufacturer from his statutory liability.

4 Notes

4.1 Important safety instructions

It is important to follow these instructions for the safety of persons.
These instructions must be kept.

- Only specialists authorised by GEZE are permitted to carry out installation, commissioning and maintenance work.
- If unauthorised changes made to the system, GEZE cannot be made liable in any way whatsoever for any resulting damages.
- GEZE is not liable if products from other manufacturers are used with GEZE equipment. In addition, only original GEZE parts may be used for repair and maintenance work.
- Attach safety stickers to glass door leaves, mat. no. 081476.
- According to the Machinery Directive 2006/42/EC, the safety analysis must be carried out before putting the door assembly into service and the door assembly must be labelled as follows in accordance with the CE Marking Directive 93/68/EEC:

▶ Enter the classification in accordance with DIN 18650-1 on the information plate and attach the type plate to the drive in such a way that it is legible.

- Observe the latest versions of guidelines, standards and country-specific regulations, in particular:
  - Technical rules for workplaces - doors and gates, ASR A1.7
  - EN 16005:2013-01 "Power operated pedestrian doorsets – Safety in use – Requirements and test methods"

DIN 18650
EN 16005

  - DIN 18650, Part 1 and Part 2 "Automatic door systems"
  - VDE 0100, Part 610 "Installing Electrical Power Systems with Nominal Voltages up to 1000 V"
  - DIN EN 60335-2-103 "Safety of electrical devices for home use and similar purposes; special requirements for drives for gates, doors and windows"
  - Accident Prevention Regulations, in particular BGV A1 (VBG1) "General Regulations" and BGV A2 (VBG4) "Electrical Installations and Resources"

4.2 Installation notes

▶ Observe the maximum permissible total current draw for powering the peripherals (max. 0.6 A).
- The drive is designed only for use in dry rooms.

▶ Use only cables prescribed in the cable plan provided.
▶ Always use insulated wire-end ferrules for wire cores.
▶ Insulate the cores that are not used.
▶ Secure loose, internal drive cables with cable ties.

- After power has returned, it is possible that a door leaf that is not closed can open too wide and can hit an obstruction. GEZE recommends installing a stop buffer in the open position.

4.3 Safety-conscious working

DANGER
Danger of electric shock!

▶ Before working on the electrical system, interrupt the power supply (mains and battery) and verify the safe isolation from supply. When using an uninterrupted power supply (USP), the system will still be under power even when disconnected from the mains.

▶ Secure the workplace against unauthorised entry.
▶ Watch the swinging area of long system parts.
▶ Secure the hood/drive shrouding against falling.

- Risk of injury by moving parts (drawing in of hair, clothing, ...) when a drive is opened.
- Risk of injury caused by unsecured crushing, impact, drawing-in or shearing spots.
- Risk of injury caused by sharp edges in the drive.
- Risk of injury due to glass breakage.

4.4 Inspection of installed system

▶ Measures for checking the security and prevention of crushing, impact, shearing or drawing-in spots.
▶ Check the function of the presence sensors and movement detectors.
▶ Check the earth connection to all metal parts that can be touched.

4.5 Disposal of the door system

- The door system is made up of materials that should be sent for recycling.
  For this purpose, the individual components should be sorted according to material type:
  - Iron
  - Plastic
  - Electronic components
  - Cables
- ▶ The parts listed should be handed in to communal collection points or be disposed of via a scrap recycling company.
- Rechargeable batteries and batteries contain pollutants and heavy metals.
- ▶ Rechargeable batteries and waste batteries should be handed in to communal collection points or retailers.

Information regarding the Battery Directive:
(Applicable in Germany and in all other member states of the European Union as well as in other European countries, together with the countries' own provisions for a separate waste battery collection system.)
In accordance with the Battery Directive, we are obliged to inform you of the following in connection with the sale of batteries or rechargeable batteries in particular the delivery of devices containing batteries or rechargeable batteries: Rechargeable batteries and batteries must not be disposed of with household waste. Disposal with household waste is expressly forbidden according to the Battery Directive. As the final consumer, you are bound by law to return waste batteries and rechargeable batteries. Please return waste batteries and rechargeable batteries to a communal collection point or retailer.
Following use, you may return any batteries or rechargeable batteries received from us by post. The address is: GEZE GmbH, Incoming Goods, Reinhold-Vöster-Str. 21-29, 71229 Leonberg/Germany.

4.6 Abbreviations

Wire colours

BN	brown	GN	green	OG	orange	TQ	turquoise
BK	black	GY	grey	PK	pink	VT	violet
BU	blue	YE	yellow	RD	red	WH	white

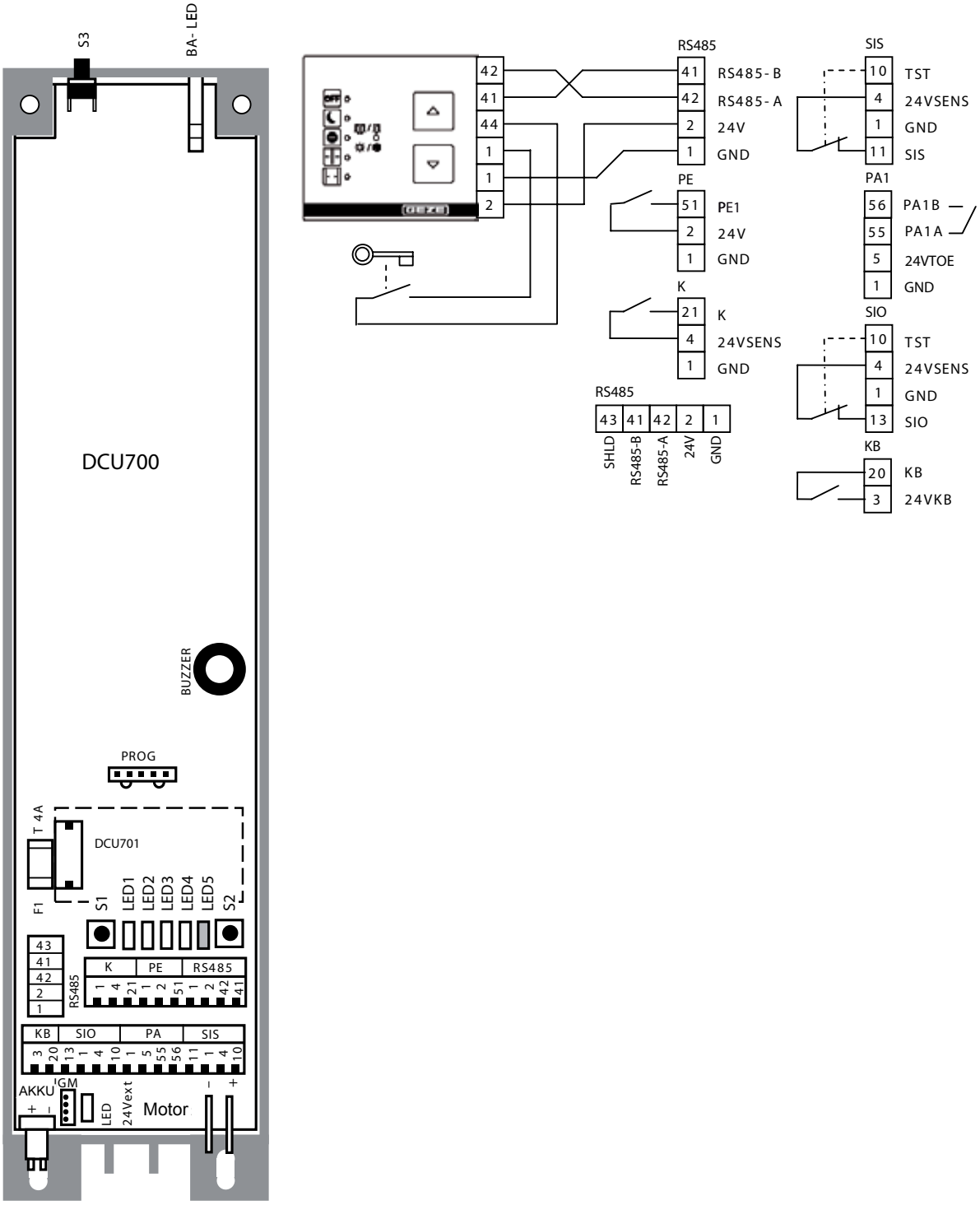
Connections, terminals and plugs

AC	Alternating current
AKKU	Rechargeable battery
AU	Automatic mode of operation
BS	Hinge side
BGS	Opposite hinge side
DC	Direct current
DCU	Door control unit
DO	Permanently open mode of operation
BUZZER	Buzzer
DPS	Display programme switch
FK	Radio channel
GND	Ground
IGM	Incremental encoder on motor
K	Contact sensor
KB	Contact sensor authorised
LED	Light emitting diode
MOD BS	Modules hinge side
MOD BGS	Modules opposite hinge side
MOTOR	Drive motor
NA	Night mode of operation
NT	Power supply
OFF	Off mode of operation
PA	Configurable output
PE	Configurable input
PROG	Programming connection
RS485	Serial interface for local communication
SCR	Screen
SIO	Safety sensor for monitoring opening
SIS	Safety sensor for monitoring closing
TK	Door transmission cable
TOE	Door opener
TPS	Key programme switch
TST	Signal for testing the safety sensors
24V	Supply voltage for external devices
24VKB	24 V for contact sensor authorised, rechargeable battery buffered
24VSENS	Supply voltage for sensors; switched off in the modes of operation OFF, NA and DO
24VTOE	24 V for door opener

Other

BS	Hinge side
BGS	Opposite hinge side

5 Supply terminals



6 Safety sensor opening and closing

- At detection the output of the sensors is open (GND is applied to the SIS or SIO input).
- ▶ Check function and correct setting of the sensors when putting into service and when servicing the assembly.

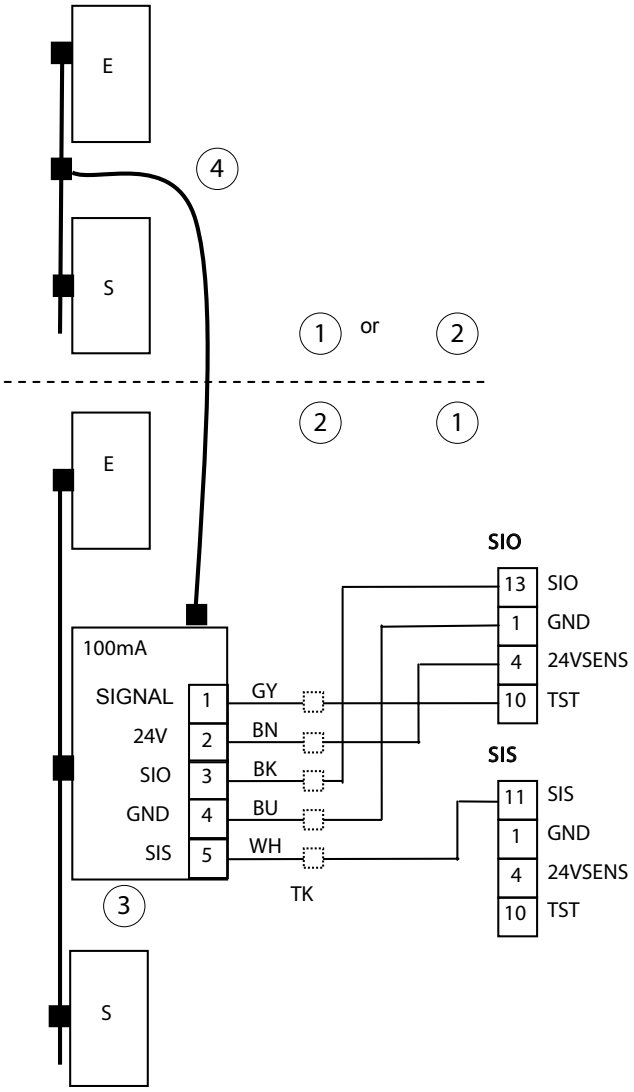
6.1 Safety sensor GC 338

DIN 18650
EN 16005

- Follow installation instructions GC 338, mat. no. 142272
- GC 338 interface, mat. no. 143072
- GC 338 transmission module, mat. no. 143060
- GC 338 receiver module, mat. no. 143071
- Accessories for setting the light curtain: Spot-finder, mat. no. 112321

Setting the DIP switch at the interface

- ▶ DIP 3 (signal) to ON (TST)
- ▶ DIP1, DIP2, DIP4 and DIP5 depending on type of installation and ambient conditions (see installation instructions and user manual GC 338)
- For teaching the sensor strip GC 338, see chapter 19.5, “Commissioning the drive with GC 338”.



1 Opposite hinge side (closing)
2 Hinge side (opening)
3 GC 338 interface module
4 Second sensor strip; not applicable for "monitoring closing" or "monitoring opening"
TK Door transmission with transom installation
E Receiver
S Transmitter

6.1.1 Monitoring opening and closing

- ▶ Set the parameters:
  - 13 SC (safety closing) to 01 for "SIS" or to 02 for "SIS and K".
  - 14 SO (safety opening) to 01 for "SIO".
  - 15 tE (testing) to 01 for "testing with 24V".

6.1.2 Monitoring opening

- Sensor for monitoring the opening of the door.
- ▶ Mount on the hinge side of the door leaf.

Connection of the GC 338 sensor as for "opening and closing", but the second sensor strip (S and E) is not applicable.

- If the SIO is activated during opening, the door stops.
- The opening angle for wall blanking of the SIO is taught by the control during the learning process in case the sensor detects an obstacle while the door is opening.
- ▶ Set the parameters:
  - 13 SC (safety closing) to 00 for "no SIS".
  - 14 SO (safety opening) to 01 for "SIO".
  - 15 tE (testing) to 01 for "testing with 24V".

6.1.3 Monitoring closing

- Sensor for monitoring the closing of the door.
- ▶ Mount on the opposite hinge side of the door leaf.

Connection of the GC 338 sensor as for "opening and closing", but the second sensor strip (S and E) is not applicable.

- If the SIS is activated during closing, the door reverses and opens again.
- The SIS can also be configured as an actuation sensor K, so that the drive can be actuated by the SIS also in the closed position.
- ▶ Set the parameters:
- 13 SC (safety closing) to 01 for "SIS" or to 02 for "SIS and K".
- 14 SO (safety opening) to 00 for "no SIO".
- 15 tE (testing) to 01 for "testing with 24V".

6.2 Safety sensor GC 334

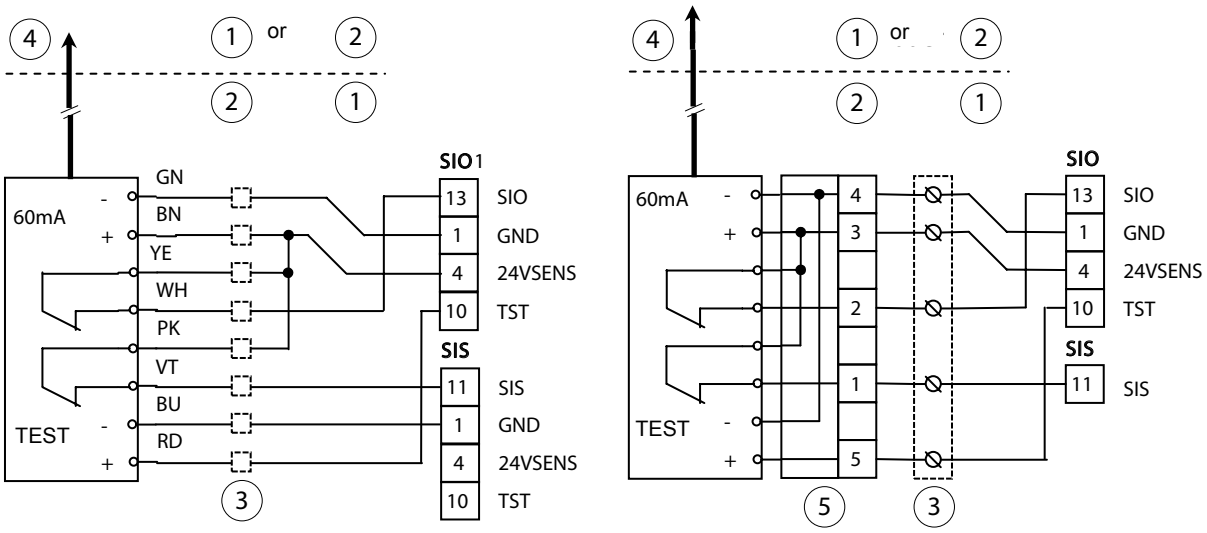
DIN 18650
EN 16005

- GC 334 module, mat. no. 126410
- Follow installation instructions, mat. no. 126832
- For setting the sensors GC 334, see chapter 4.1, “Important safety instructions”.
- Accessories:
  - Interface GC 334, mat. no. 128306 (for use where there is a cable transition on site)
  - Spotfinder, mat. no. 112321 (for setting the sensor)

6.2.1 Monitoring opening and closing

- ▶ Set the parameters:
  - 13 SC (safety closing) to 01 for "SIS" or to 02 for "SIS and K".
  - 14 SO (safety opening) to 01 for "SIO".
  - 15 tE (testing) to 02 for "testing with GND"

Configuration of the GC 334 modules on the
- Hinge side: DIP1 = ON
- Opposite hinge side: DIP1 = OFF



1 Opposite hinge side (closing)
2 Hinge side (opening)
3 Door transmission with transom installation
4 Second sensor strip not applicable for "monitoring opening" or "monitoring closing"
5 Interface GC 334

6.2.2 Monitoring opening

- Sensor for monitoring the opening of the door.
- ▶ Mount on the hinge side of the door leaf.

Connection of the GC 334 sensor as for "opening and closing", but the second sensor strip is not applicable.

- If the SIO is activated during opening, the door stops.
- The opening angle for wall blanking of the SIO is taught by the control during the learning process in case the sensor detects an obstacle while the door is opening.
- ▶ Set the parameters:
  - 13 SC (safety closing) to 00 for "no SIS".
  - 14 SO (safety opening) to 01 for "SIO".
  - 15 tE (testing) to 02 for "testing with GND"

6.2.3 Monitoring closing

- Sensor for monitoring the closing of the door.
- ▶ Mount on the opposite hinge side of the door leaf.

Connection of the GC 334 sensor as for "opening and closing", but the second sensor strip is not applicable.

- If the SIS is activated during closing, the door reverses and opens again.
- The SIS can also be configured as an actuation sensor K, so that the drive can be actuated by the SIS also in the closed position.
- ▶ Set the parameters:
- 13 SC (safety closing) to 01 for "SIS" or to 02 for "SIS and K".
- 14 SO (safety opening) to 00 for "no SIO".
- 15 tE (testing) to 02 for "testing with GND"

6.3 Safety sensor GC 335

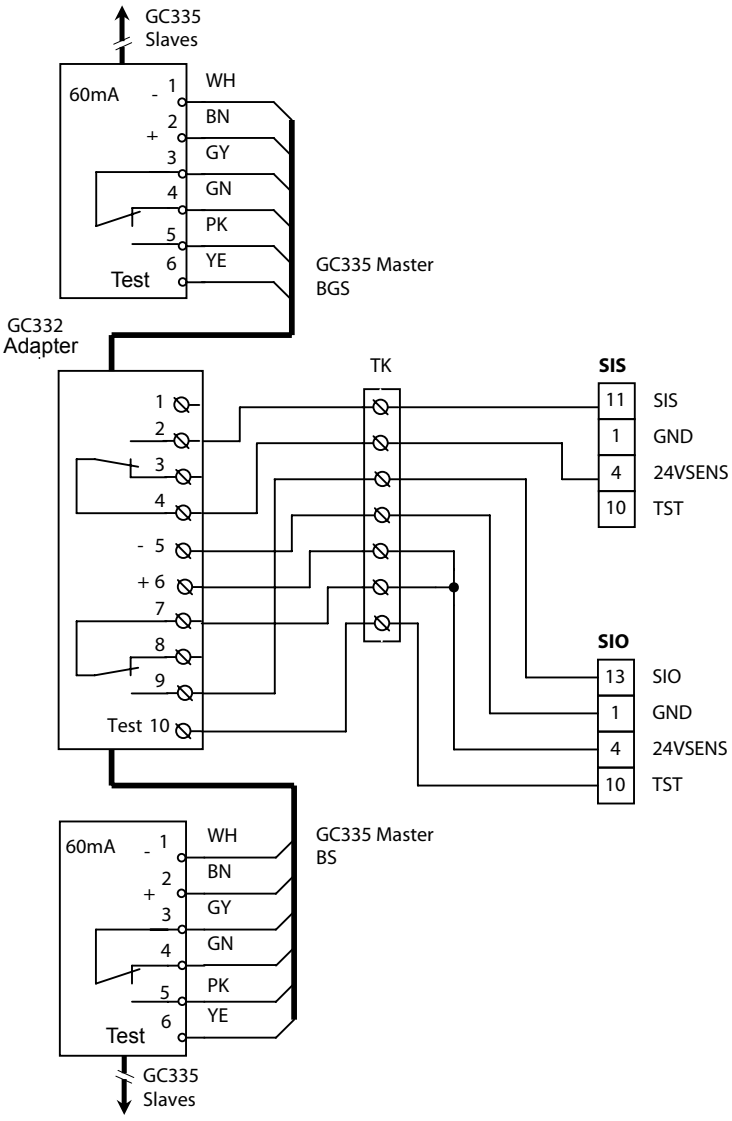
DIN 18650
EN 16005

- GC 335 master module, mat. no. 128074
  GC 335 Extension kit (slave module with accessories), mat. no. 128072
- Follow mounting instructions
- Accessories:
  - GC 332 adapter, mat. no. 124035
  - Spotfinder, mat. no. 112321

▶ Use the test specimen, mat. no. 120190, to set the sensing field.
▶ Always install the master module near the hinge, connection with drive control takes place at the master module.
▶ Connect max. 7 slave modules to one master module.
▶ Open the configuration bridge at the last slave module or at the master module (if no slave modules connected).

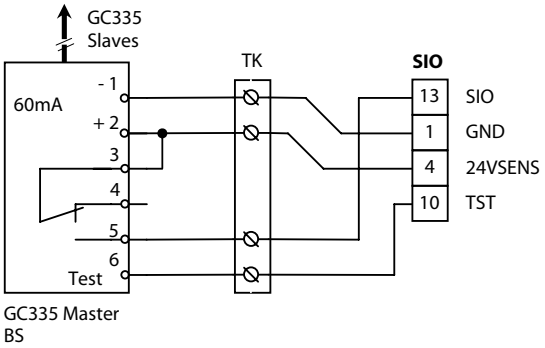
6.3.1 Monitoring opening and closing

▶ Set the parameters:
  - Set 13 *SC* (safety closing) to the required function.
  - Set 14 *SO* (safety opening) to *0 1* for "SIO".
  - Set 15 *tE* (testing) to *0 1* for "testing with 24V".



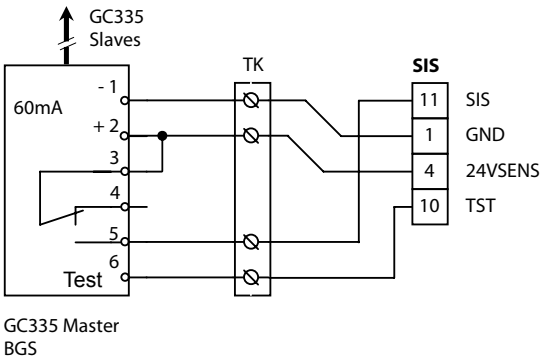
6.3.2 Monitoring opening

- Set the parameters:
  - Set 13 SC (safety closing) to 00 for "no SIS".
  - Set 14 SO (safety opening) to 01 for "SIO".
  - Set 15 tE (testing) to 01 for "testing with 24V".



6.3.3 Monitoring closing

- Set the parameters:
  - Set 13 SC (safety closing) to the required function.
  - Set 14 SO (safety opening) to 00 for "no SIO".
  - Set 15 tE (testing) to 01 for "testing with 24V".

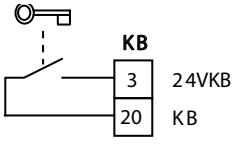


7 Contact sensor authorised

- The input KB is active in the AU and NA operating modes.
- When actuated, the door opens.
- When controlling, the output of the contact sensor authorised is closed (24V applied at the KB input).
- The authorised contact sensor function can also be actuated via the radio receiver WRB-5, Channel 2 (see 10.1.2, "Radio channel FK2").

- Do not operate the "authorised" contact sensor continuously since the drive will otherwise not be able to switch off automatically in the event of a power failure and the battery of the drive will become discharged.
- Do not connect electrical loads to the terminal 24VKB because otherwise the battery cannot be charged.

- The hold-open time when actuating via KB can be set separately (0–30 s).
  - Parameter 5 o5 (hold-open time KB).
- An activation delay (0–20 s) can be set for contact sensor KB and K:
  - Parameter 7 A1 (activation delay).
- Key-operated switch SCT, single-pole, flush-mounted, AS500 without profile half cylinder, mat. no. 117996
- Accessories:
  - Profile half cylinder, mat. no. 090176
  - Additional contact, mat. no. 024467.
    The additional contact cannot be used as a sabotage contact, but is rather used to enable or disable the key programme switch TPS.



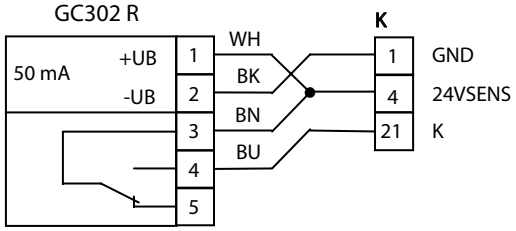
8 Contact sensor

- The K input is only active in the AU mode of operation.
- The contact sensor function can also be actuated via the radio module WRB-5, Channel 1 (see chapter 10.1.1, “Radio channel FK1”).
- When actuated, the door opens.
- When actuated, the output of the contact sensor is closed (24 V applied to the K input).
- The sensor for monitoring closing can also be used as a contact sensor (SIS and K function), see chapter 6, “Safety sensor opening and closing”.
- The contact sensors K and KB have the same activation delay time (see chapter 6, “Safety sensor opening and closing”).
- The hold-open time when actuating via K can be set separately (0…30 s).

▶ Set the parameters:
- Set 4 *oH* (hold-open time) to the desired value.

8.1 GC 302 R radar (microwave) motion detector

- GC 302 R black, mat. no. 124087
- GC 302 R according to RAL, mat. no. 124088 (remote control does not work with detector hood mounted, LED not visible)
- The GC 302 R is a directionally sensitive radar movement detector.



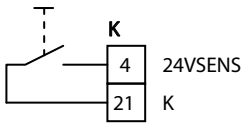
▶ Follow installation instructions, mat. no. 123457.

- Accessories:
  - Remote control, mat. no. 099575
  - Ceiling installation set, mat. no. 115384
  - Rain cover, mat. no. 115339

▶ Set the detection field and the sensitivity of the radar movement detector.
- To align the sensing field, rotate the planar antenna and change its tilt angle.

▶ If several GC 302 R units are mounted next to or behind one another, set different device addresses using the two DIP switches. Otherwise the settings of the other detectors will also changed by the remote control.

8.2 Push button (potential-free contact)



- Plastic elbow switch, white, mat. no. 114078
- Plastic elbow switch, stainless steel, mat. no. 114077
- Stainless steel elbow switch, mat. no. 119899
- Stainless steel elbow switch LS 990, surface-mounted, mat. no. 128582
- Stainless steel elbow switch LS 990, flush-mounted, mat. no. 128583
- Accessories:
  - IP65 switch insert, mat. no. 114156
  - Additional contact, mat. no. 114157
  - Radio transmitter module WTM, can be clipped in, mat. no. 131212
  - Back panel for plastic elbow switch,
  - white, mat. no. 131219,
  - stainless steel, mat . no. 131220

9 Push And Go

WARNING
Danger of injury due to crushing and shearing!
- ▶ During an activated Push And Go function door handles can form crushing and shearing points.

- The Push And Go function allows actuating of the drive without contact sensors being used.
- When the Push And Go function is set, the drive opens the door automatically as soon as the door leaf is moved manually out of the closed position.
- The opening angle for activation of the opening automatic functions can be adjusted (1°–20°).
- When the "opening" safety sensor is connected, the SIO can block the door opening since the sensor detects an obstacle in opening direction.

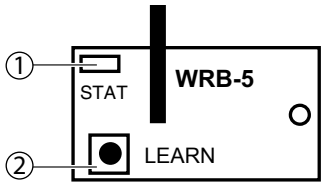
An opening angle that is set too close can result in undesired automatic opening of the door.

- ▶ Set parameter 8 *Pu* (Push and Go) to *00* for "no Push and Go" or to the required opening angle for the start of automatic opening (1°–20°).

10 Radio control

▶ Observe the installation and service instructions of the GEZE Automatic Wireless Programme, mat. no. 135193.

- Radio reception board WRB-5, mat. no. 135170
- 1-channel wireless transmitter WTH-1, mat. no. 131209
- 2-channel wireless transmitter WTH-2, mat. no. 131210
- 4-channel wireless transmitter WTH-4, mat. no. 131211
- Radio transmitter module WTM, mat. no. 131212



1 Status LED
2 Learn button

- The radio receiver PCB WRB-5 can optionally be plugged onto the DCU700 controller.
- The radio receiver has the two channel FK1 and FK2.
- The buttons on the wireless transmitter can be taught separately using the learn button on the radio receiver.
- A maximum of 12 transmitters can be stored per channel in the memory of the receiver.

If more than 12 transmitters are taught, the 12th transmitter is always overwritten.

- Only one button each can be assigned per transmitter to one radio channel.
- If both radio channels are assigned to one transmitter button, only radio channel FK1 is switched when the button is pressed.
- When the receiver has received and decoded a valid transmission signal, it switches the corresponding output as long as the transmission signal is received, however at least for one second.

- Do not operate the buttons of the wireless transmitter WTH or the push button of the radio transmitter module WTM continuously since the drive will otherwise not be able to switch off automatically in the event of a power failure and the battery of the drive will become discharged.
- If the teaching button (LEARN) of the radio reception board PCB is pressed for longer than 5 s, the taught transmitters of both channels are deleted.

10.1 Radio channels

10.1.1 Radio channel FK1

The function of the radio channel FK1 depends on how long the assigned button is pressed.

- If the button is pressed for longer than 5 s, the function is like that of the contact sensor input K.
- If the button is pressed for longer than 5 s in the AU mode of operation, the control changes to the DO mode of operation. After the button has been pressed again, the control changes back to the AU mode of operation.

Activating teaching

▶ Press the learn button on the radio reception board for about 1 s.
The LED will flash 1x per second.
The memory for the channel 1 is selected.
▶ Press the corresponding button on the radio transmitter briefly within 30 seconds.
The LED will light up briefly as confirmation. The radio transmitter has been taught successfully and teaching is finished.
If further radio transmitters are to be taught to channel 1, the steps must be repeated.
For further instructions see the installation and service instructions GEZE Automatic Wireless Programme.

10.1.2 Radio channel FK2

The function of the radio channel FK2 is identical to that of the actuation input KB.

Activating teaching

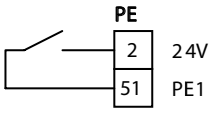
▶ Press the learn button on the radio reception board for about 1 s.
The LED will flash 1x per second.
▶ Press the learn button again for about 1 s.
The LED will flash 2x per second.
The memory for the channel 2 is selected.
▶ Press the corresponding button on the radio transmitter briefly within 30 seconds.
The LED will light up briefly as confirmation. The radio transmitter has been taught successfully and teaching is finished.
If further radio transmitters are to be taught to channel 2, the steps must be repeated.
For further instructions see the installation and service instructions GEZE Automatic Wireless Programme.

11 Configurable input

PE is a configurable input. The function can be set via the service menu (see chapter 20, “Parameter menu”).

11.1 Sabotage

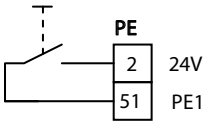
- The configurable input PE can be used as a sabotage input e.g. for monitoring a contact sensor authorised with sabotage contact.
- When the switch housing is closed, the sabotage contact is closed, 24 V is applied to the sabotage input.
- When the key-operated switch housing is opened, the sabotage contact is opened, 0 V is applied to the sabotage input.
  - In this case actuation via the contact sensor authorised is ignored.
  - Error 32 (Sabotage) is indicated.
  - If the PA output is configured as a fault output, the output contact is closed.
  - Actuation via KB is only possible again after the mode of operation has been changed with closed sabotage contact.



▶ Set the parameters:
  - Set 9*E 1* (configurable input) to *0 1* for "sabotage".
  - If appropriate, set. 10 *A 1* (configurable output) to *20* for "fault".

11.2 Switch function

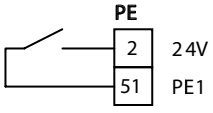
- Upon actuation, the output of the button is closed (24 V applied to the PE input).
- The first momentary contact opens the door and the next closes the door. For the setting switch function with closing after the hold-open time, the door closes automatically after the hold-open time elapses if it was not closed via the switch beforehand.



▶ Set the parameters:
  - Set 9*E 1* (configurable input) to *02* for "switch function" or to *03* for "switch function close after hold-open time".

11.3 Night

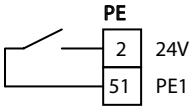
- The configurable input PE can be used as the night input.
- When the night switch is actuated, the contact is closed (24 V applied to the PE input).
- The door closed and changes to the NA operating mode, as soon as the switch is pressed.
- The door remains in the NA mode of operation as long as 24 V is applied to the PE output. It is not possible to change the mode of operation via a programme switch.



▶ Set the parameters:
  - 9*E 1* (configurable input) to *04* for the "night" function.

11.4 Stop

- The configurable input PE can be used as the stop input.
- When the stop switch is actuated, the contact is closed (24 V applied to the PE input).
- The door stops immediately as soon as the switch is activated.
- As long as the switch is activated, the door remains in its position. The door leaf can be moved manually.

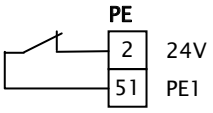


▶ Set the parameters:
- Set 9 *E 1* (configurable input) to *05* for the "stop" function.

11.5 Bolt signal

- The configurable input PE can be used as the input for the feedback contact of the door opener.
- The lock signal input disables the actuation of the drive if the door is locked. If the input becomes active while the door is open, the door reverses and remains open.
- The feedback contact can be an opening or a closing contact.
  - Opening contact: When the door is locked, the feedback contact is opened (0 V applied to the PE input).
  - Closing contact: When the door is locked, the feedback contact is closed (24 V applied to the PE input).

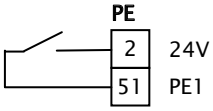
▶ Set the parameters:
- Set 9 *E 1* (configurable input) to *06* for "bolt signal closer".
- Set 9 *E 1* (configurable input) to *07* for "bolt signal opener".



11.6 Contact sensor

- The configurable input PE can be used as a second contact sensor input (same function as contact sensor K).
- Upon actuation, the contact of the button is closed (24 V applied to the PE input).

▶ Set the parameters:
- Set 9 *E 1* (configurable input) to *08* for the "contact sensor" function.

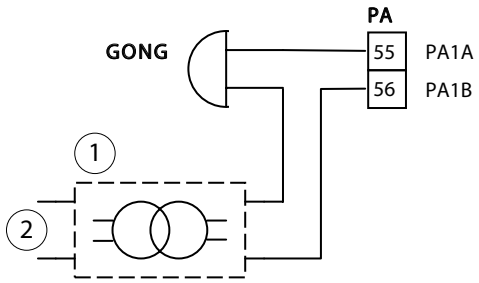


12 Programmable output

- PA is a potential-free relay contact, switching voltage/current max. 24 V AC/DC, 0.5 A.
- The function of the configurable output PA can be selected via the service menu (see chapter 20, “Parameter menu”).

12.1 Gong

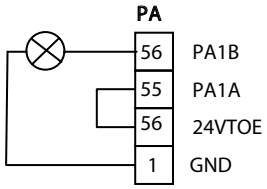
▶ Set the parameters:
- Set 10 *A 1* (configurable output) to *01* for the "gong" function.
- The contact closes for 1.2 s in the operating mode AU or DO as soon as contact sensor K or radio channel FK1 are actuated.



1 Gong transformer
2 Feeder

12.2 Fault

- ▶ Set the parameters:
  - Set 10 *A 1* (configurable output) to *02* for the "fault" function.
- The output contact closes as soon as the control detects a system fault. At the same time the corresponding error number is indicated at the TPS and at the service LEDs.

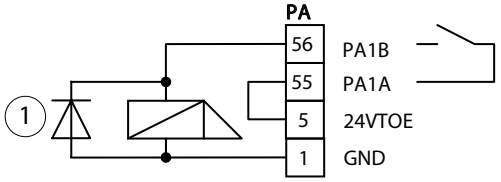


12.3 Door opener

- A working current door opener or a static current door opener can be connected as a door opener. In addition, close pressure can be configured before opening in order to take the strain off the door opener.
- Switching voltage/current max. 24 V AC/DC, max. 0.5 A.
- ▶ Set the parameters:
  - 6 *to* (door opener) to the required door opener type with close pressure before opening if appropriate.
  - 10 *A 1* (configurable output) to *03* for "door opener" function (see chapter 20, “Parameter menu”).
- Actuation of the door opener is limited to 5 s plus the configured activation delay.
- Connection of a lock feedback signal contact: see chapter 11.5, “Bolt signal”.

12.4 24 V DC door opener supplied on drive side

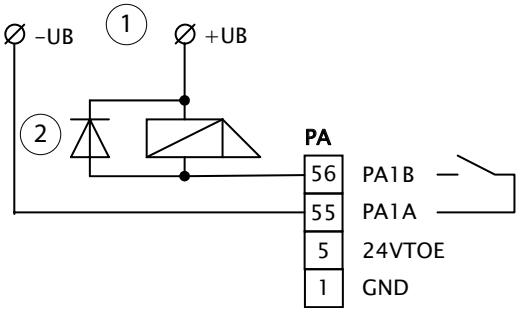
- ▶ Mount the free-wheeling diode 1N4007 at the door opener, mat. no. 115293.



1 Free-wheeling diode

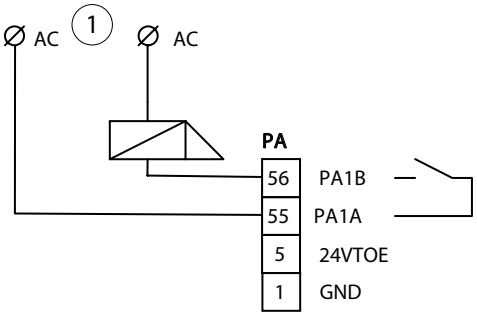
12.5 DC door opener supplied on site

- ▶ Mount the free-wheeling diode 1N4007 at the door opener, mat. no. 115293.



1 On-site DC power supply
2 Free-wheeling diode

12.6 AC door opener supplied on site



1 On-site AC power supply

12.7 Further functions

The set mode of operation or door mode can be signalled to a higher-level control or a building control centre, see chapter 20, "Parameter menu", via the configurable output PA1.

▶ Set the parameters:
- Set 10 *A 1* (configurable output) to the required signal (*04* … *12*).

12.8 Motor lock

~~For the connection of the motor lock see "Wiring diagram motor lock IQ Lock EL", mat. no. 147324.~~

13 Mode of operation

13.1 Mode of operation button

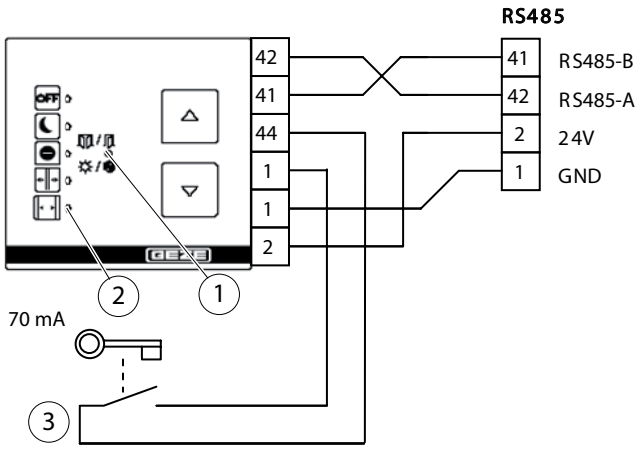
The mode of operation button at the drive can be used to select the OF, NA, AU or DO modes of operation.

▶ Press the mode of operation button briefly.

The mode of operation display immediately switches one mode of operation further. The drive itself does not change the mode of operation to the then new mode of operation until 1 s after the last button has been pressed. This makes it possible, for example, to change the mode of operation from AU via DO and OF to NA.
The mode of operation display changes its colour in accordance with the mode of operation selected:
off (OF) → red (NA) → green (AU) → blue (DO) → off (OF) → red (NA) → ...

13.2 Button programme switch TPS

- TPS, AS500, flush-mounted, mat. no. 113231
- TPS SCT, AS500, flush-mounted, with key operated push button, without profile half cylinder, mat. no. 113232



1 Display without function
2 LEDs for mode of operation display
3 Key operated push button for release of the mode of operation switchover with TPS

- LEDs (1) for mode of operation display an error code if a fault occurs (see chapter 21, "Fault messages").
- The mode of operation shop closing-time is not available with ECturn.

- OF, NA, AU, DO modes of operation

▶ Follow installation instructions, mat. no. 122400

- Accessories:
  - Profile half cylinder, mat. no. 090176
  - Additional contact, mat. no. 024467
  - Surface-mounted cap, single, AS500, mat. no. 120503
  - Surface-mounted cap, double, AS500, mat. no. 128609
- After the operating voltage has been switched on, the drive is back in the mode of operation that was set before switching off or the failure of the operating voltage.
- If operation of the TPS is not possible since disabling is active, the current operating mode LED flashes once if a button is pressed.
- If there are one or more errors, these are displayed consecutively alternatively with the current mode of operation in encoded form with the five LEDs. At least two LEDs always light up when an error is displayed. The mode of operation is displayed for 5 s, the respective error message for 2 s.

- When the keypad programme switch is used it is still possible to change the mode of operation using the mode of operation button even when the key programme switch is disabled.

Permanent release of mode of operation switchover using the key programme switch:

- rather than actuating the key push button at the key programme switch, connect a jumper between 1 and 44.

14 Mains connection

14.1 Safety instructions

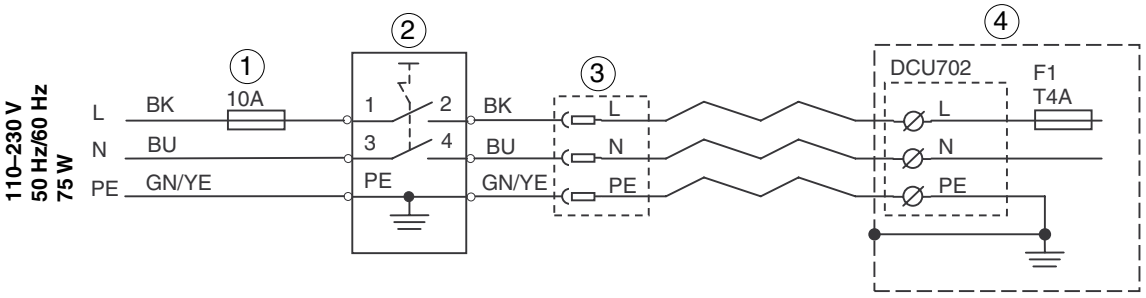
DANGER

Danger of electric shock!

- The removal of the earth-pin power plug and the connection of the drive to the mains voltage may only be carried out by a qualified electrician.
- Perform the power connection and equipment earth conductor test in accordance with VDE 0100 Part 610.

- Use an on-site 10-A automatic circuit-breaker as the line-side disconnecting device.
- Fuse protection for the drive should preferably be on site.
- Observe the latest versions of guidelines, standards and country-specific regulations, in particular:
  - VDE 0100, Part 610 "Installing Electrical Power Systems with Nominal Voltages up to 1000 V"
  - DIN EN 60335-2-103 "Safety of electrical devices for home use and similar purposes", special requirements for drives for gates, doors and windows

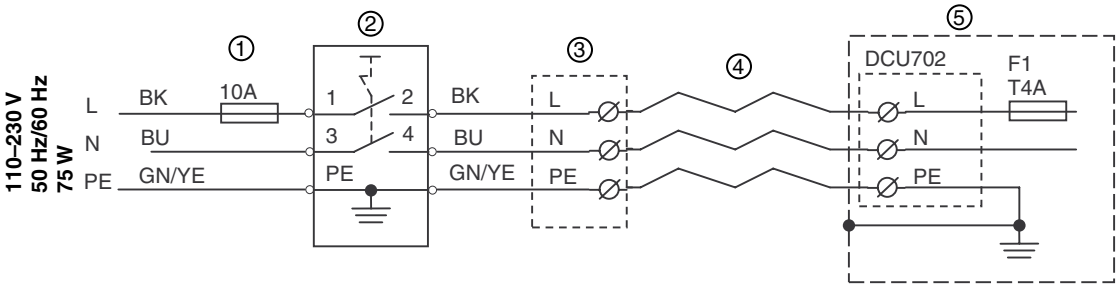
14.2 Transom installation



1 Mains fuse provided on site
2 Main switch provided on site (optional)
3 Earth-pin power socket (provided on site)
4 ECturn door drive

14.3 Door leaf installation

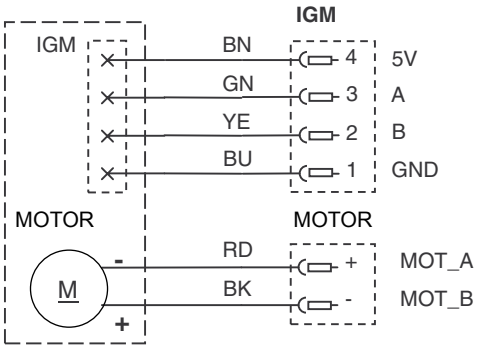
- Door transmission cable ECturn, mat. no. 135307



1 Mains fuse provided on site
2 Main switch provided on site (optional)
3 Connection box (provided on site)
4 ECturn door transmission cable
5 ECturn door drive

15 Motor

Motor-gear unit, mat. no. 131471



16 Rechargeable battery

DANGER

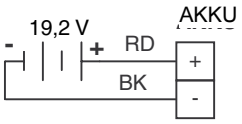
Danger of crushing through doors closing unexpectedly!

When the rechargeable battery is installed, the drive is not de-energised when the supply voltage is switched off (via on-site main switch or NT plug on the DCU703 control).

De-energise the drive:

- ▶ Set the operating mode to OFF.
- ▶ Switch off the drive at the power switch or unplug the earth-pin power plug from the mains socket.
- ▶ Remove the rechargeable battery plug at the DCU700 control.

- ▫ DCU700 ECturn battery, mat. no. 131473



- ▫ The rechargeable battery is not in the drive when the unit is delivered.
- ▫ The rechargeable battery can be discharged in the delivery state. Therefore the drive has to be operated using the on-site voltage supply for at least 24 hours after connection of the rechargeable battery in order for it to charge.

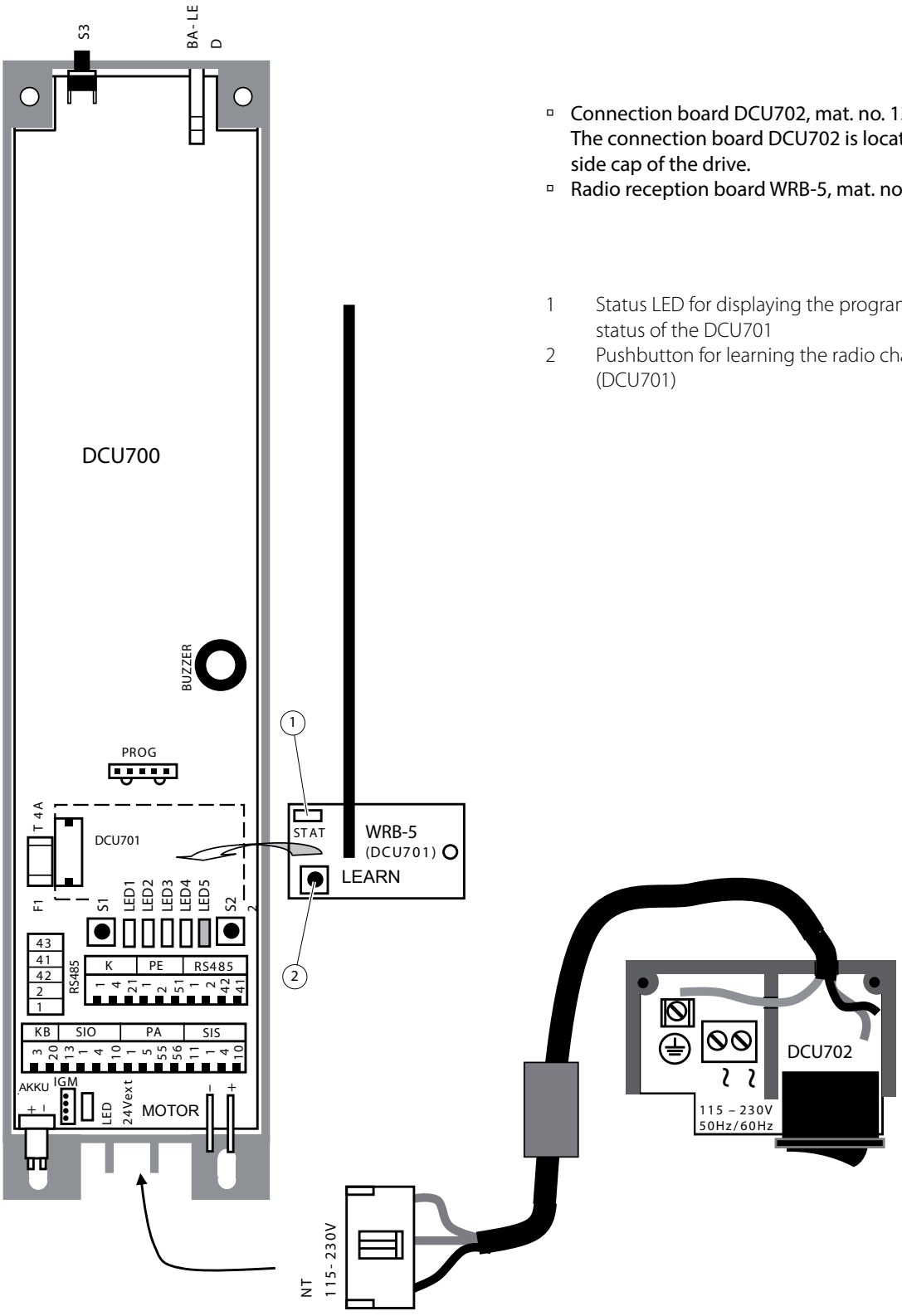
- ▫ Rechargeable battery voltage in charged state: ≥ 21.6 V (with rechargeable battery unplugged)
- ▫ The rechargeable battery has to be replaced every 2–3 years.
- ▶ Set the parameter for the required behaviour in case of failure of the on-site voltage supply:
  - ▫ Set 16 *AC* (failure of supply voltage) to the required function (see chapter 20, "Parameter menu").

Behaviour after failure of the voltage supply and charged battery

- ▫ After a failure of the supply voltage the drive still carries out the function set with parameter 16 *AC*.
- ▫ Then the drive switches itself off by disconnecting the connection to the rechargeable battery in order to save the battery.
- ▫ If the mode of operation NA or AU is set, teh drive can be reactivated via input KB or the radio channel FK2 as long as parameter 16 *AC* is set to *02* (closing and switch off).
- ▫ If KB, FK1 or FK2 is active:
  - ▫ The drive establishes the rechargeable battery connection.
  - ▫ The door opens and closes automatically.
  - ▫ The drive disconnects the rechargeable battery connection again.

17 Control

DANGER
Danger of electric shock!
- Opening of the control and removal of the control circuit board DCU700 as well as connection of the PCB DCU702 to the power pack of the control may only be carried out by GEZE-authorised personnel.



- Connection board DCU702, mat. no. 132444
  The connection board DCU702 is located in the side cap of the drive.
- Radio reception board WRB-5, mat. no. 135170

1 Status LED for displaying the programming status of the DCU701
2 Pushbutton for learning the radio channels (DCU701)

- Control circuit board DCU700, mat. no. 130905

18 Low-energy operation – automatic operation

DIN 18650
EN 16005

Low-energy doors are as a rule not equipped with additional protective devices, since the kinetic energy values are viewed as harmless.

DIN 18650-2, 4.4.4 defines the requirements for low-energy operation:

- The drive has to be set on site so that the opening time until it stops or up to 80° amounts to at least 3 s.
- The hold-open time has to exceed 5 s.
- The static force during opening and closing has to amount to less than 67 N, measured 25 mm away from the main closing edge and vertically to the main closing edge.
- The kinetic energy of the door has to amount to less than 1.6 J at every movement point.
- The doors have to be set so that they close in at least 3 s from 90° to 10° and so that they require at least 1.5 s from the position of 10° until they are closed completely. During the last 3° of the closing movement the closing force may amount to up to 150 N.
- In the case of a power failure it must be possible to open the door with a maximum of 67 N measured vertically to the main closing edge.

DIN 18650
EN 16005

If the drive does not fulfil these requirements, it is in automatic mode. The leaf movement has to be secured with protective devices.

Safety sensors can be connected both for automatic operation and for low-energy operation. The control also reacts to connected safety sensors in low-energy operation if the control is configured correspondingly.

18.1 Low-energy operation

Low-energy operation or automatic operation is set with parameter 23 or *dt*. The factory setting is low-energy operation.

- ▶ Set the parameters:
  - 23 *dt* to *01* for "1-leaf single-action door with guide rail, low-energy operation" (factory setting).
  - or to *02* for "1-leaf single action door with link arm, low-energy operation".

The range of application of the ECturn is limited to:

- Leaf weight < 120 kg
- 0.6 m < Leaf width < 1.1 m

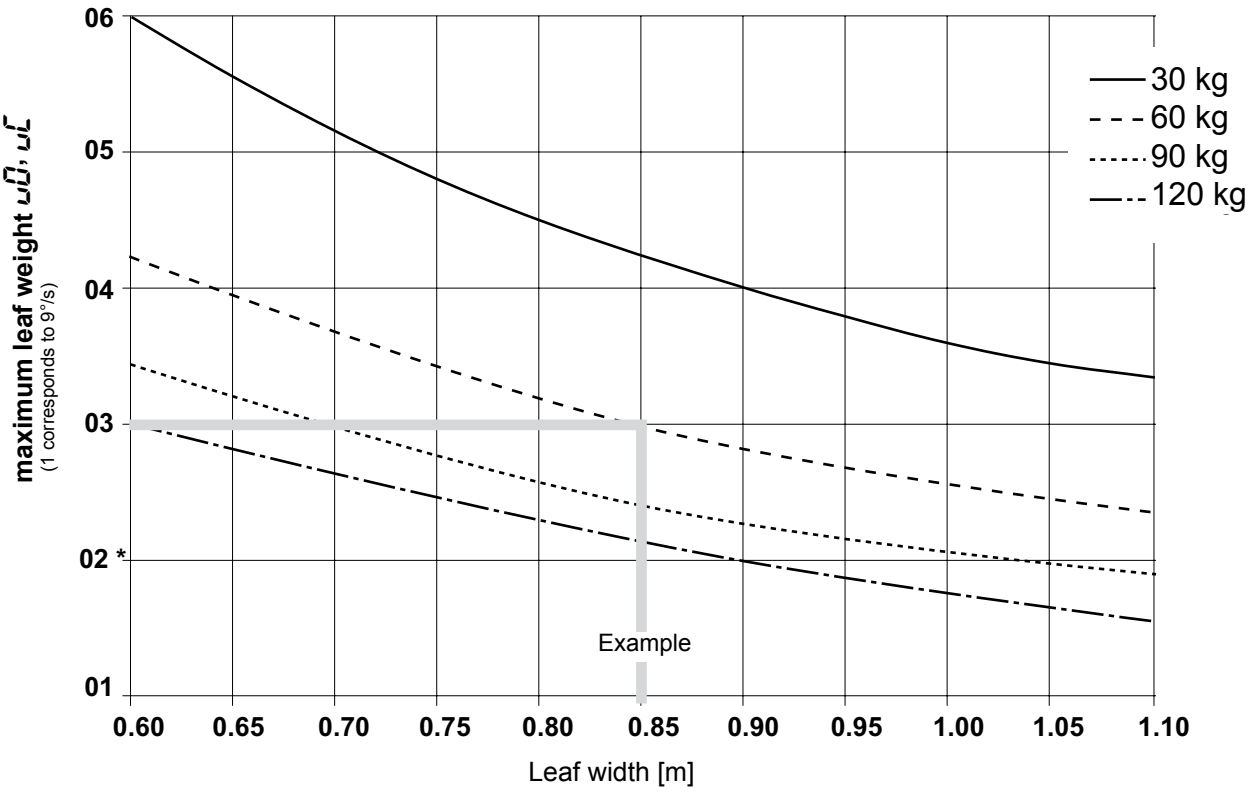
This limiting case is used for the presetting of low-energy operation. If low-energy operation is configured

- the setting options of the hold-open times is limited to greater than or equal to 5 s,
- the opening speed and the closing speed are set to 18°/s (door angle) (worst case)
- the maximum opening torque and maximum closing torque are set to 40 Nm (67 N x 0.6 m, worst case)

During commissioning the values for the maximum speeds and for the maximum torques can then be optimised individually in the case of lighter or narrower door leaves.

18.1.1 Optimising of the speeds in low-energy operation

DIN 18650 EN 16005 Higher speeds can be set for lighter and/or narrower door leaves. The diagram shows the maximum speeds allowed depending on the leaf width and leaf weight.



* 02 = Factory setting

Example
For a door leaf with a weight of 60 kg and a leaf width of 0.85 m the value 03 may still just about still be set for the opening speed (parameter 1, uO) or the closing speed (parameter 2, uC) in order for the requirements placed on the kinetic energy by low-energy operation to be observed.

18.1.2 Optimising opening and closing torques with narrower door leaves

DIN 18650 EN 16005 Higher torques can be set for narrower door leaves. The maximum permissible torque M is calculated from the leaf width b as follows:

$M < 67\ N \times b\ [m]$

Example:
For a leaf width of 0.85 a maximum opening torque (parameter 19, FO) or closing torque (parameter 20, FC) of 67 N × 0.85 m = 60 Nm may be set in order to observe the requirements for the opening and closing torque during low-energy operation.

18.2 Automatic operation

- In automatic operation the leaf movement has to be secured with safety sensors.
- ▶ Set the drive type:
  - Set 23 dt (drive type) to 03 for "1-leaf single-action door with guide rail, automatic operation" or to 04 for "1-leaf single-action door with link arm, automatic operation"
- In automatic operation the overall performance of the drive may be used for the speeds and the torques.

18.3 Closing torque and door closing function

A constant closing torque in the range of 0 to 14 Nm can be set using parameter 22 CF. This closing torque then acts constantly in the closed position and if the door is opened manually (Push And Go deactivated).

DIN 18650
EN 16005

If a constant closing torque is set, the drive acts like a door closer. Closing after manual opening is not monitored by the safety sensor.

The higher the closing torque is set, the more the motor heats up. A closing torque that is set too high can result in overheating of the motor.

- Set the parameters:
  - Set 22 CF (closed position torque) to a value exceeded 0.

18.4 Opening moment

An opening torque in the range of 0 to 14 Nm can be set in order to press the door leaf in the open position against the stop and thus keep the door open during wind.

The higher the opening torque is set, the more the motor heats up. An opening torque that is set too high can result in overheating of the motor.

- Set the parameters:
  - Set 21 OF (open position torque) to a value exceeding 0.

19 Commissioning and service

Commissioning and service can be effected either via the display programme switch or the buttons S1 and S2, see chapter 20, "Parameter menu".

19.1 Display programme switch

It is not possible to change the operating mode with the display programme switch.

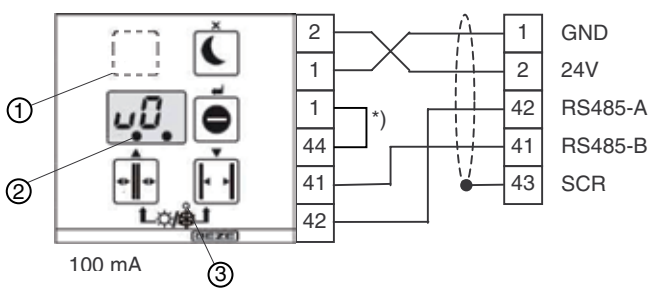
The display programme switch is connected optionally to the RS485 interface of the control
- To display the operating mode
- To display system messages
- To display and to change drive parameters

The display programme switch has two 7-segment displays to display the current mode of operation.
- DPS, CD500, mat. no. 103940

Operating mode			Service mode	
	OF / NA / Off	Night	×	Cancel and return to first menu level
	–	Without function	↵	Confirm
	AU	Automatic	▲	Scroll up Increase value
	DO	Permanently open	▼	Scroll down Reduce value
+ ↵ simultaneously	Change mode of operation / service mode (If no button is pressed in service mode for a period of 2 minutes, the service mode changes to the operating mode)			

1 Concealed service button
2 Position unknown
3 Display without function

*) Attach bridge 1–44



19.2 Service buttons S1 and S2

The mode of operation cannot be changed by using the service buttons.

Function	Input and reaction
Calling up/exiting the parameter menu	▶ Simultaneously press buttons S1 and S2 longer than 2 seconds. LED5 flashes slowly, corresponding to the selected parameter level: Level 1: 1 pulse + 1 s pause Level 2: 2 pulses + 1 s pause LED1 through LED4 display the parameter.
Parameter selection	▶ Press the button S2 (+) or button S1 (–) briefly.
Switch to value setting	▶ Keep the button S1 pressed longer than 2 s. In the value menu, LED5 is off and LED1 through LED4 display the value in accordance with the value table.
Change value	▶ Briefly press button S2 (+) or button S1 (-).
Confirm value	▶ Press button S1 longer than 2 s.
Value setting without exiting value change	▶ Press button S2 longer than 2 s.
Reset the values to the factory settings	▶ Set parameter 24 (factory settings) to *01*.

19.3 Pre-conditions for commissioning

- Installation is complete (see installation instructions ECturn, mat. no. 134078).
- Electrical installation is complete.
- Sensors are correctly programmed and aligned.

19.4 Commissioning the drive

- ▶ If the safety sensor GC 338 is used to secure opening and closing, continue with chapter 19.5, "Commissioning the drive with GC 338".
- ▶ If necessary, insert DPS into the control.
- ▶ If necessary, connect the battery to the control.
- ▶ Switch on the on-site voltage supply of the drive.
- Display
  - The operating mode display (BA-LED) at the drive lights up yellow (parameters to factory settings)
  - DPS: *LE* (learn)
- ▶ Set the parameters, in particular (if necessary or required):
  - Parameter 6 *to* (door opener) to the type of door opener used
  - Parameter 9 *E1* (configurable input) to the required function
  - Parameter 10 *A1* (configurable output) to the required function
  - Parameter 13 *SC* (safety closing) to *01* for "SIS" or *02* for "SIS and K"
  - Parameter 14 *SO* (safety opening) to 01 "SIO"

DIN 18650
EN 16005

  - Parameter 15 *tE* (testing) depending on sensor type:
    GC 334: to *02*, for "testing with GND"
    GC 335: to *01*, for "testing with 24V"
  - Parameter 16 *AC* (failure of voltage supply) to the required function
  - Parameter 23 *dt* (drive type) to the version and mode of operation of the drive
- ▶ Start learning.
- With S1, S2: Request service menu by pressing buttons S1 and S2 at the same time.
  - Actuate S1 briefly to get to parameter 29 *LE* (learning).
  - Press S1 for 2 s to start the learning mode.
- With DPS: Select *LE* for learning.
  - DPS display: *L1*
  - Press the ↵ button.
  - A confirmation signal will sound. Display service LEDs: 1○ 2○ 3○ 4○ 5●
- ▶ Move the door leaf by hand to the desired open position.

- ▶ Do not enter into the detection field of the safety sensor 'open', because otherwise the blanking of any wall present in the open position is taught incorrectly.

- ▶ Move the door leaf by hand completely to the closed position.

- ▶ End learning:
  - With S1, S2: Press button S1 for 2 s.
  - With DPS: Press the ↵ button.
    A confirmation signal will sound. The opening angle of the door is now known to the control.
    The operating mode LED is off.
- ▶ Exit the service menu
  - With S1, S2: Simultaneously press buttons S1 and S2 longer than 2 s.
  - With DPS: Press the hidden service button and button ↵ at the same time

After learning, the Au mode of operation is set, the BA LED lights up green, interrupted by 2 flash pulses (1 Hz).

- ▶ Close door leaf completely.
- ▶ Actuate drive (K, KB or radio remote control).

The door opens slowly to the open position. Afterwards the door then closes again with slower speed.
Flashing of the operating mode LED stops as soon as the drive was able to move through the taught opening angle range.

- ▶ Terminating commissioning:
  - Check function and sensing ranges of all contact sensors.
  - Check function and sensing ranges of the safety sensors for monitoring opening and closing. Check sensor strips of each individual sensor module.
  - If necessary, remove the DPS from the control.

19.5 Commissioning the drive with GC 338

- ▶ If necessary, insert DPS into the control.
- ▶ If necessary, connect the battery to the control.
- ▶ Switch on the on-site voltage supply of the drive.
- Display:
  - The operating mode display (BA-LED) on the drive lights up yellow (parameters to factory settings).
  - DPS: LE (learn)
- ▶ Set the parameters, in particular (if necessary or required):
  - 1 uO (opening speed)
  - 2 uC (closing speed)
  - 6 to (door opener) to the type of door opener used
  - 9 E1 (configurable input) to the required function
  - 10 A1 (configurable output) to the required function
  - 16 AC (failure of voltage supply) to the required function
  - 17 bO (acceleration and braking delay opening)
  - 18 bO (acceleration and braking delay closing)
- ▶ Deactivate safety sensors by parameter adjustment on the control:
  - 13 SC (safety closing) to 00, for "no SIS" (factory setting)
  - 14 SO (safety opening) to 00, for "no SIO" (factory setting)
  - 15 tE (testing) to 00, for "no testing" (factory setting)
- ▶ Start learning:
- With S1, S2: Request service menu by pressing buttons S1 and S2 at the same time.
  - Actuate S1 briefly to get to parameter 29 LE (learning).
  - Press S1 for 2 s to start the learning mode.
- With DPS: Select LE for "learning" and press the ↵ button.
  DPS display: L 1

A confirmation signal will sound. Display service LEDs: $_1\circ\ _2\circ\ _3\circ\ _4\circ\ _5\bullet$.

- ▶ Move the door leaf by hand to the desired open position.
- ▶ Move the door leaf by hand completely to the closed position.
- ▶ End learning:
  - Press the button S1 for 2 s or press the button ↵ on the DPS.
    A confirmation signal will sound. The opening angle of the door is now known to the control.
    The operating mode LED is off.
- ▶ Teach the sensor strips GC 338 (see installation instructions GC 338, mat. no. 142272)
- ▶ Following successful teaching of the sensor strips, activate the safety sensors by parameter adjustment on the control:
  - 13 SC (safety closing) to 01 for "SIS" or 02 for "SIS and K"
  - 14 SO (safety opening) to 01 for "SIO"
  - 15 tE (testing) to 01, for "testing with 24V"

20 Parameter menu

No.	DPS	Service LEDs					Parameters	Encoding[1]	Value[1]
		5	4	3	2	1			
1	u0	*	○	○	○	●	Opening speed	01 **02**... 10	9°/s, **18 °/s**, ..., 90°/s
2	uC	*	○	○	●	○	Closing speed	01 **02**... 10	9°/s, **18 °/s**, ..., 90°/s
3	uE	*	○	○	●	●	Latching action closing position	**00** 01 ... 05	**No latching action** 9°/s, 18°/s ... 45°/s
4	oH	*	○	●	○	○	Hold-open time	00 01 ... **05** 25 30	0 s, 1s, **5 s** ... 25 s, 30 s
5	oS	*	○	●	○	●	Time held open KB	00 01 ... **05** 25 30	0 s, 1s, **5 s** ... 25 s, 30 s
6	to	*	○	●	●	○	Door opener	00 **01** 02 03 04 05 06	No door opener **Working current door opener** Static current door opener Motor lock Working current door opener with close pressure before opening Static current door opener with close pressure before opening Motor lock with close pressure before opening
7	A1	*	○	●	●	●	Actuation delay time	**00** ... 18 20	For K and KB **0 s** ... 18 s, 20 s
8	Pu	*	●	○	○	○	Push And Go	**00** 01 ...18 20	**No Push And Go** Push and Go, actuating angle 1°–18°, 20°
9	E1	*	●	○	○	●	Configurable input	**00** 01 02 03 04 05 06 07 08	**No function** Sabotage Switch function Switch function Close after hold-open time NA operating mode Stop Lock signal closer Lock signal opener Contact sensor
10	A1	*	●	○	●	○	Configurable output	**00** 01 02 03 04 05 06 07 08 09 10 12	**No function** Gong Fault Door opener Door closed and locked Door closed Door opened OFF operating mode NA operating mode AU operating mode DO operating mode AU or DO operating mode
11	b1	*	●	○	●	●	Gong signal	**00** 01 02	**Off** Quiet Loud	Gong signal when the Contactor K is activated
12	b2	*	●	●	○	○	Movement signal	**00** 01 02	**Off** Quiet Loud	Alarm signal during the opening and closing movement
13	SC	*	●	●	○	●	Security close	**00** 01 02	**No SIS** SIS SIS and K	 Safety function Safety and actuation function
14	SO	*	●	●	●	○	Security open	**00** 01	**No SIO** SIO	
15	tE	*	●	●	●	●	Testing	**00** 01 02	**No testing** Testing with 24 V Testing with GND	

No.	DPS	Service LEDs					Parameters	Encoding[1]	Value[1]
		5	4	3	2	1			
16	AU	**	○	○	○	●	Power failure in AU or DO	**00** 01 02 03	**No function** Open and switch off Close and switch off Battery operation 15 min
17	bO	**	○	○	●	○	Opening acceleration	01 ... **04** ... 18 20	Determines the braking delay during opening at the same time
18	bC	**	○	○	●	●	Closing acceleration	01 ... **04** ... 18 20	Determines the braking delay during closing at the same time
19	FO	**	○	●	○	○	Max. torque opening	10 ... **40** ... 90	10 Nm ...**40 Nm** ... 85 Nm, 90 Nm
20	FC	**	○	●	○	●	Max. torque closing	10 ... **40** ... 90	10 Nm ...**40 Nm** ... 85 Nm, 90 Nm
21	OF	**	○	●	●	○	Open position torque	**00** ... 14	**0 Nm** ... 14 Nm
22	CF	**	○	●	●	●	Close position torque	**00** ... 14	**0 Nm** ... 14 Nm
23	dt	**	●	○	○	○	Drive type	**01** 02 03 04	**1-leaf single-action door with guide rail, low-energy operation** 1-leaf single-action door with link arm, low-energy operation 1-leaf single-action door with guide rail, automatic operation 1-leaf single-action door with link arm, automatic operation
24	CP	**	●	○	○	●	Factory setting	**00** 01	**Parameters are not reset** Parameters are reset
25	EP	**	●	○	●	○	Software version	01 04 00	E.g. for V1.40
26	SA	**	●	○	●	●	Service display	Co xx xx xx Ho xx xx xx	Display of number of cycles and operator hours only at the DPS. When paging using the arrow buttons the values with the following meaning are displayed: Co Number of cycles Co 00 34 00 means 3400 cycles Ho Operating hours Ho 00 12 00 means 1200 hours
27	oE	**	●	●	○	○	Error list	See fault messages in chapter 21 CE	Query of the last 10 errors Delete error list
28	Pt	**	●	●	○	●	–	–	Not used
29	LE	**	●	●	●	○	Starting/terminating teaching	L1	–

○ LED off
● LED on
* LED5 flashes with 1 Hz
** LED5 flashes twice with 1 Hz
[1] Text in bold means factory setting

20.1 Value table for service LEDs and display programme switch

DPS	Service LEDs				
	5	4	3	2	1
0	○	○	○	○	○
1	○	○	○	○	●
2	○	○	○	●	○
3	○	○	○	●	●
4	○	○	●	○	○
5	○	○	●	○	●
6	○	○	●	●	○
7	○	○	●	●	●
8	○	●	○	○	○
9	○	●	○	○	●
10	○	●	○	●	○
12	○	●	○	●	●
14	○	●	●	○	○
16	○	●	●	○	●
18	○	●	●	●	○
20	○	●	●	●	●
25	●	○	○	○	○
30	●	○	○	○	●
35	●	○	○	●	○
40	●	○	○	●	●
45	●	○	●	○	○
50	●	○	●	○	●
55	●	○	●	●	○
60	●	○	●	●	●
65	●	●	○	○	○
70	●	●	○	○	●
75	●	●	○	●	○
80	●	●	○	●	●
85	●	●	●	○	○
90	●	●	●	○	●

21 Fault messages

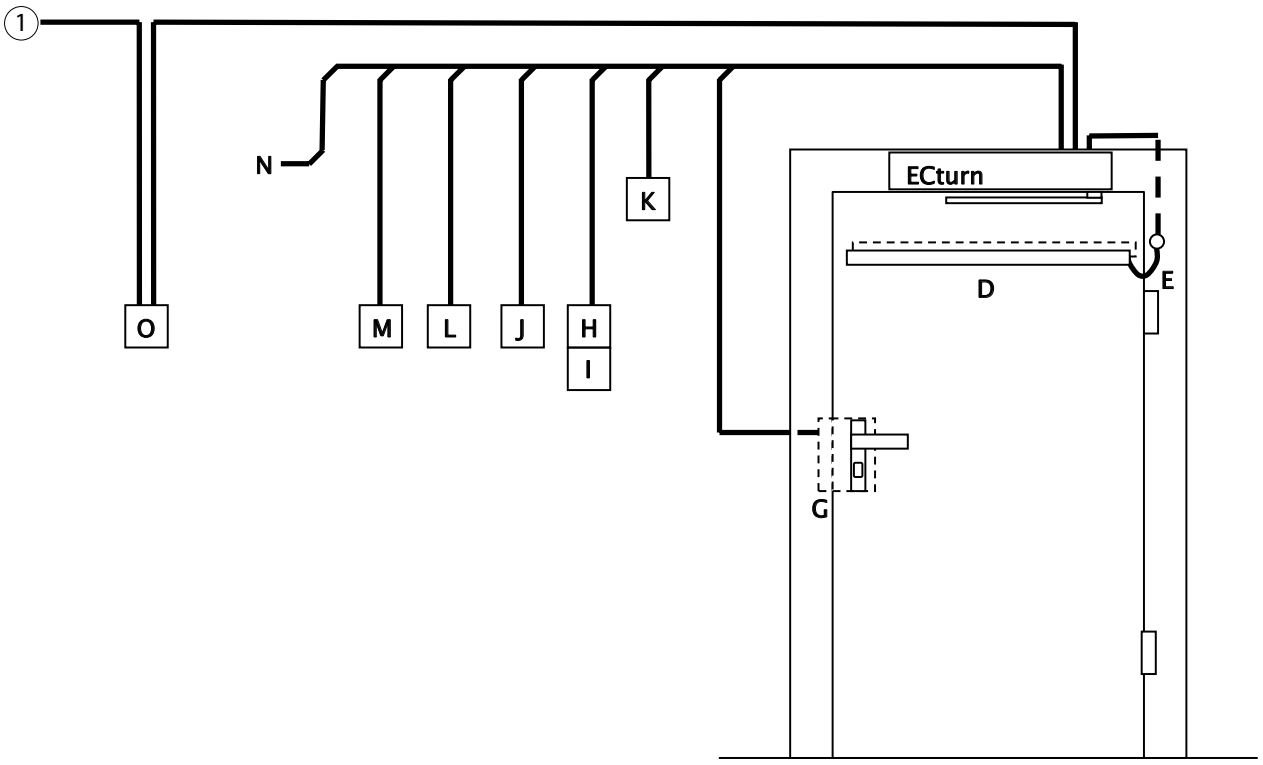
DPS	TPS					Service LEDs					Error group	Cause	Behaviour of the drive
	OFF					5	4	3	2	1			
–	○	○	○	○	○	○	○	○	○	○	Operating voltage	Drive is switched off.	
	○	○	○	○	○	x	x	x	x	x	24V	Short-circuit of the 24V	Drive remains in operation. The 24V LED on the controller is off. Actuation is not possible. TPS is off.
03	●	●	○	○	○	*	○	○	○	●	Failure supply voltage	Failure of the on-site supply voltage	If there is no rechargeable battery available: Leaf is braked by motor short-circuit. If there is a rechargeable battery available: Behaviour depends on the setting of the parameter AC (supply voltage failure). The position is unknown after the power has returned.
13	○	○	●	●	○	*	○	○	●	●	Safety sensor close	Testing safety sensor close is faulty	Retests 3 times in the open position. Door closes with reduced speed. Retests 10 times in the closed position. Retests after every operating mode change or after every actuation. As long as the error is active, the door is only accessible manually.
												Actuation longer than 4 min and operating mode change to NA	Door closes slowly. As soon as the signal is inactive again, the error is deleted.
41	●	○	●	○	○	*	○	●	○	○	Safety sensor open	Testing safety sensor open is faulty	Door closes with normal speed. Retests 10 times in the closed position. Retests after every operating mode change or after every actuation. As long as the error is active, the door is only accessible manually.
												Actuation longer than 4 min	Door closes with normal speed. As long as the sensor is active, the door is only accessible manually. As soon as the signal is inactive again, the error is deleted.
34	x	x	x	x	x	*	○	●	●	○	Button programme switch	Monitoring only if TPS was connected to the controller when the operating voltage was switched on.	Drive remains in operation. The error is deleted as soon as the TPS responds again.
28	●	●	○	○	●	*	○	●	●	●	Control motor relay	Testing the motor relay has failed. Internal error	OFF operating mode Position unknown
47	●	●	○	○	●	*	○	●	●	●	Controller temperature sensor	Internal error. Thermal sensor on the controller defective	Drive remains in operation.
60	●	●	○	○	●	*	○	●	●	●	Control	Internal error	Door leaf is braked by the motor. Motor relay is opened. The generator brake is active as long the mains power is applied.
17	●	●	●	○	○	*	●	○	○	●	Door opener, motor lock	An obstruction is recognised in the closed position during an attempt to open.	The door remains closed after a further attempt to open. Waiting for the next actuation.

DPS	TPS					Service LEDs					Error group	Cause	Behaviour of the drive
	OFF					5	4	3	2	1			
10	○	○	●	●	●	*	●	○	●	○	Motor rotary transducer	No pulse from the rotary transducer despite motor current. One of the two signals from the incremental rotary transducer is missing. The direction of rotation does not correspond to the set direction of rotation of the motor.	Door leaf is braked by the motor and the drive test is carried out. Retests after every operating mode change or after every actuation. If the rotary transducer is OK again, the error is deleted.
11	○	○	●	●	●	*	●	○	●	○	Motor short-circuit	Motor short-circuit.	Door leaf is braked by the motor. Motor relay is opened. Retests after every operating mode change or after every actuation. If the motor is OK again, the error is deleted and motor relay is closed again.
12	○	○	●	●	●	*	●	○	●	○	Motor	No motor current is measured although current is supplied to the motor	Door leaf is braked by the motor. Motor relay is opened. Retests after every operating mode change or after every actuation.
45	○	○	○	●	●	*	●	○	●	●	Controller temperature	Control unit overheated	From 85 °C the hold-open time is extended.
48	○	○	○	●	●	*	●	○	●	●	Motor temperature	Motor temperature too high	Hold-open time is extended.
61	○	●	●	○	○	*	●	●	○	○	Rechargeable battery	Battery discharged. Battery voltage <17 V	If mains power is available, the drive remains in operation. If no mains power is available (battery operation), the drive switches off.
32	●	○	○	○	●	*	●	●	●	●	Sabotage	Sabotage becomes active in the NA operating mode	The actuation to KB is suppressed. The error is deleted as soon as the operating mode is changed and the Sabotage input is inactive.
X.X	○	○	●	○	●	-	-	-	-	-	Position is unknown	After supply voltage is returned	Initialisation with reduced speed. Operating mode LED flashes yellow

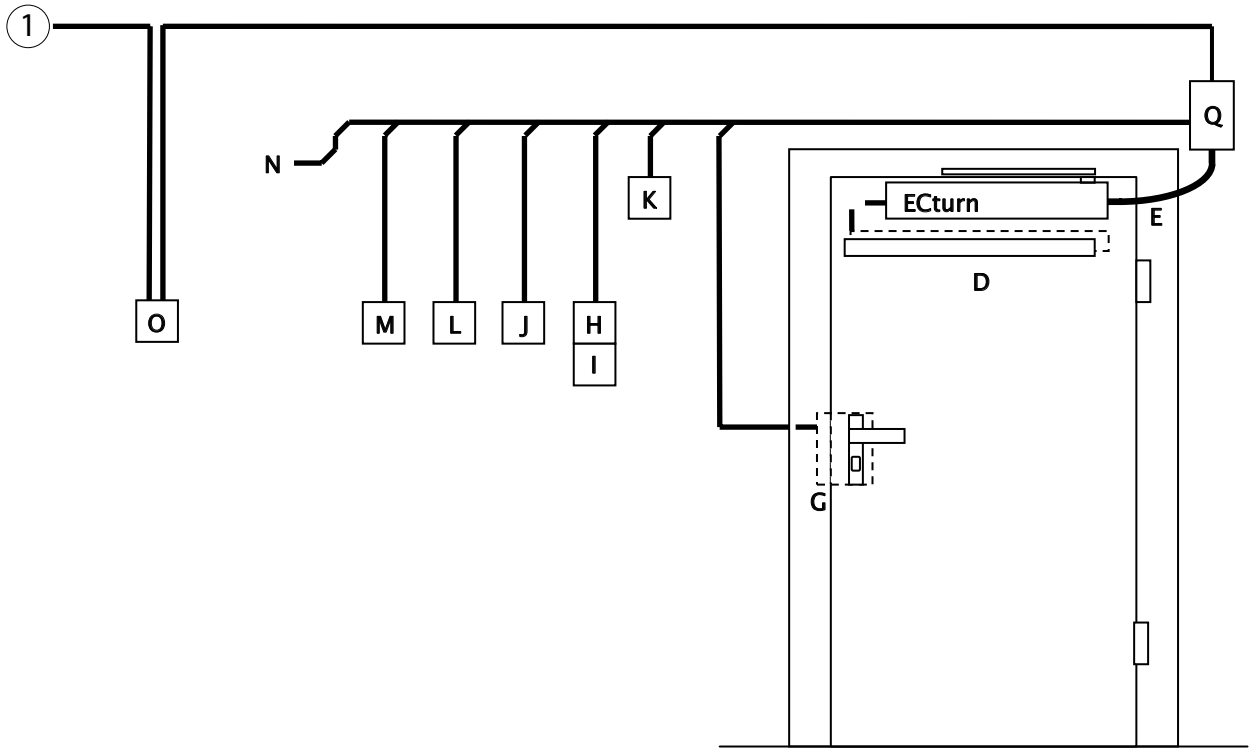
○ LED off
● LED on
* LED5 flashes with 10 Hz
- No display
x Display undefined

22 ECturn system

22.1 Transom installation



22.2 Door leaf installation



22.3 System key

Abbreviations

1 Mains voltage, mains fuse 10 A, power 75 W

D Safety sensor strip
E Door transmission (supplied by GEZE, sensor strip)
G Door opener with deadbolt contact
H Programme switch, external (TPS)
I Key operated push button for TPS
J Contact sensor K (e.g. button)
K Radar movement detector
L Contact sensor authorised KB
M Special application (switch function, stop)
N Special application (error message to building control centre, potential-free contact)
O Main switch (option)
Q Connection box with separate connection areas for mains voltage and low voltage (required, on site)

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