UFO-NT

Valid for variants
UFO-NT IP (1-leaf/2 leaf)
UFO-NT F (1-leaf/2 leaf)

EN Wiring Diagram

186039-00

GEZE

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Symbols and illustrations

Warning notices
Warning notices are used in these instructions to warn you of property damage and personal injury.
▶ Always read and observe these warning notices.
▶ Observe all measures marked with the warning symbol and warning word.

Warning symbol	Warning word	Meaning
⚠	**DANGER**	Danger to persons. Non-compliance will result in death or serious injuries.
⚠	**ATTENTION**	Danger to persons. Non-compliance may result in death or serious injuries.
⚠	**CAUTION**	Danger to persons. Non-compliance may result in minor injuries.

Further symbols and means of representation
Important information and technical notes are highlighted to explain correct operation.

Symbol	Meaning
❶	means "important information"; information on avoiding material damage, understanding a concept or optimising workflows.
i	means "additional information"
▶	Symbol for an action: This means you have to do something. ▶ If there are several actions to be taken, keep to the given order.
EN 16005	Compliant with EN 16005	Symbol in a table or in information concerning safety sensors.
~~EN 16005~~	Not compliant with EN 16005	Symbol in a table or for a piece of information on sensors that do not correspond to EN 16005.
F	Fire protection door	Symbol for fire protection door
⊠	Not permissible for fire protection door	Symbol "Not permissible for fire protection door"

Validity

▫ Valid from software version DCU8 V U1.8
▫ Hardware revision DCU800 from Rev F

Product liability

In compliance with the product manufacturer liability as defined in the German "Product Liability Act", the information contained in this brochure (product information and intended use, misuse, product performance, product maintenance, obligations to provide information and instructions) must be observed. Failure to comply with this information releases the manufacturer from its statutory liability.

GEZE

1   Notes

1.1   Important safety instructions

To ensure personal safety, it is important to follow these safety instructions.

▶ Keep these instructions.
▫ Only specialists authorised by GEZE are permitted to carry out installation, commissioning and maintenance work.
▫ Unauthorised modifications to the system release GEZE from liability for any resulting damages.
▫ GEZE makes no guarantee for combinations with third-party products. In addition, only original GEZE parts may be used for repair and maintenance work.
▫ Connection to the mains voltage must be carried out by a qualified electrician. The mains connection and equipment ground conductor test must be performed in accordance with VDE 0100 Part 610.
▶ The customer must install a circuit breaker as a mains separator, whose rated value is aligned to the type, profile, method of installation and the ambient conditions of the local power supply line. The circuit breaker must have a minimum and maximum rating between 4 A and 16 A.
▫ Attach safety stickers to glass leaves (mat. no. 081476).
▶ In accordance with Machinery Directive 2006/42/EC, a safety analysis must be performed and the door system must identified in accordance with CE Identification Directive 93/68/EEC before the door system is commissioned.
▫ Observe the latest versions of directives, standards and country-specific regulations, in particular:
  ▫ ASR A1.7 "Directives for doors and gates"
  ▫ EN 16005 "Power operated pedestrian doorsets – Safety in use – Requirements and test methods"
  ▫ "Guidelines for hold-open systems"
  ▫ DIN VDE 100-600 "Installation of low-voltage systems - Part 6 Tests"
  ▫ DIN EN 60335-2-103 "Household and similar electrical appliances; Particular requirements for drives for gates, doors and windows"
  ▫ Accident Prevention Regulations, in particular BGV A1 (VBG1) "General Regulations"
    BGV A3 (VBG4) "Electrical Installations and Resources"

1.2   Installation information

▶ Only use the cables prescribed in the cable plan provided. Cables must be shielded in compliance with the wiring diagram.
▶ Always use insulated wire-end ferrules for wire cores.
▶ Insulate wires that are not used.
▶ Secure loose, internal drive cables with cable ties.
▶ Observe the maximum permitted overall current drain required to supply the periphery.

1.3   Safe operation

▶ Secure the workplace against unauthorised entry.
▶ Pay attention to the swivelling range of long system parts.
▶ Secure control box against falling.
▶ Before working on the electrical system, disconnect the power supply (mains and battery) and check that no voltage is present. Note that if an uninterruptible power supply (UPS) is used, the system will still be supplied with power despite the fact that the power supply is disconnected.
▫ 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.
▫ Danger of injury through link arm or lever arm snapping back. Disconnect motor from the control only if spring is not under tension.
▫ Danger of injury when working at heights.
▫ Only operate the drive with a connected latching action switch.

1.4   Inspection of installed system

▶ Check the measures for securing or preventing crushing, impact, shearing or pull-in spots.
▶ Check the function of the presence sensors and movement detectors.
▶ Check the protective earth connection to all metal parts that can be touched.

1.5 Disposal of the door system

▫ The door system is made up of materials that should be sent for recycling.
The individual components have to be sorted in accordance with their material type.
  ▫ Aluminium (profiles, cover, return pulleys, sliding blocks, ...)
  ▫ Iron (drivers, screws, ...)
  ▫ Plastic
  ▫ Electronic components (dead bolt, motor, control, transformer, sensors, ...
  ▫ Cables
The parts can be disposed of at the local recycling depot or by a scrap recycling company.
▫ Batteries contain pollutants and heavy metals. Do not dispose of with household waste.
Turn over rechargeable batteries to your local recycler.

2 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

AU	Automatic	LS	Exit only	SF	Passive leaf
BS	Hinge side	MPS	Mechanical programme switch	STOP	Stop
BGS	Opposite hinge side			SCR	Screen
		NA	Night	SO	Opening safety sensor
DO	Hold open	PA	Configurable output	SIS	Closing safety sensor
DPS	DPS	PE	Configurable input	STG	Fault
END	Latching action	RBM	Radar movement detector	TK	Door transmission cable
GF	Active leaf			TOE	Electric strike
GND	Reference potential	RES	Reset switch	TST	Test signal for safety sensors
		RM	Bolt message		
KA	Contact sensor outside	RSZ	Smoke control unit	24V	Supply voltage for external devices
		RS485	Communication signal to DPS and second drive		
KB	Mechanical contact	OFF	OFF mode of operation	24VSENS	Supply voltage for sensors, connected after setting the ECO mode
KI	Contact sensor inside				
LK	Luster terminal				

3 Electrical data

Mains voltage	230 V AC −15 %, +10 %
Frequency	50 Hz
Protection rating	I
Capacity rating	200 W
Mains connection	Fixed connection (installation cable or cable connection)
Primary fuse	–
Secondary fuse	10 A slow-blow, 5×20 mm
Secondary voltage (transformer)	33 V AC (46 V DC)
Control voltage for external components	24 VDC ±10 %
Output current control voltage 24 V	1200 mA permanently 1800 mA briefly (5 s, duty ratio 30 %)
Fuse protection <24 V	2.5 A; reversible
Temperature range	−15 … +50 °C
IP rating	IP version IP67 F version IP62

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4   Supply terminals
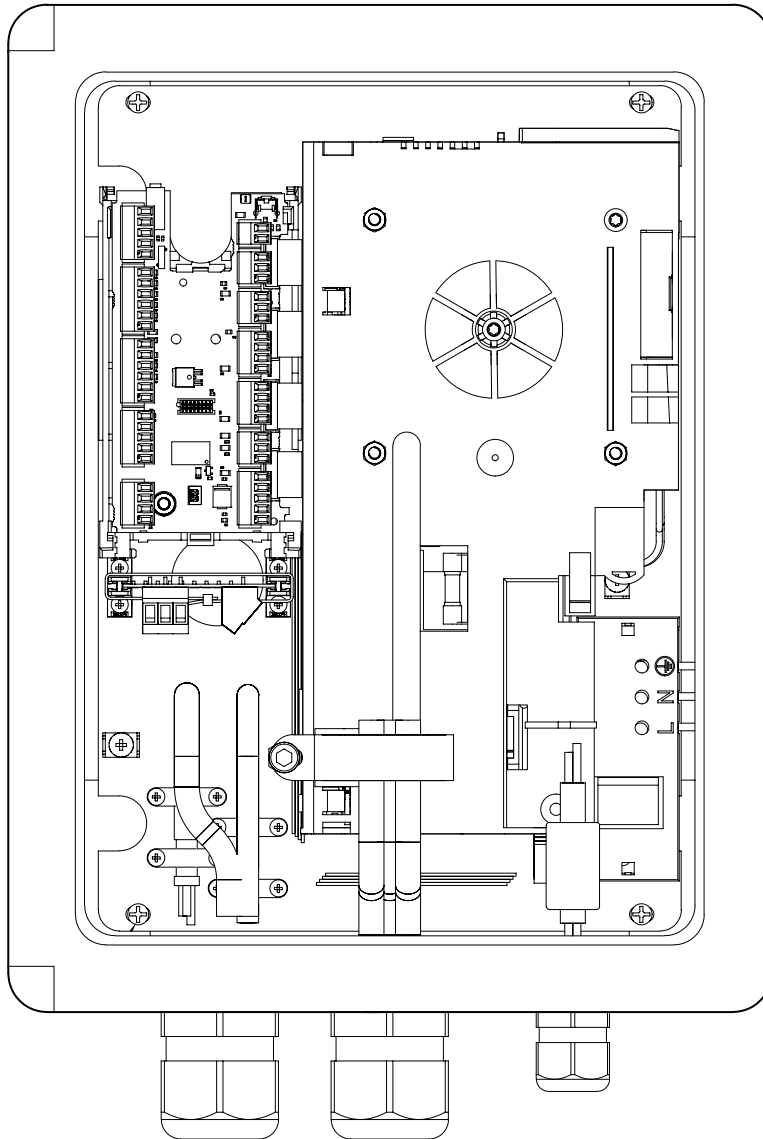
DCU800
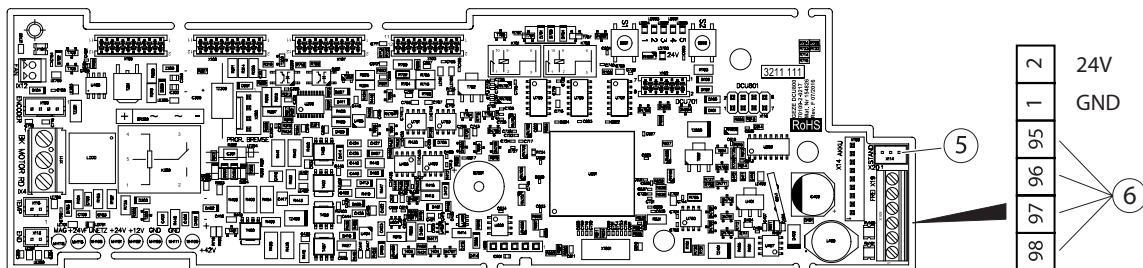
1   RS485 passive leaf
2   FREE

DCU802
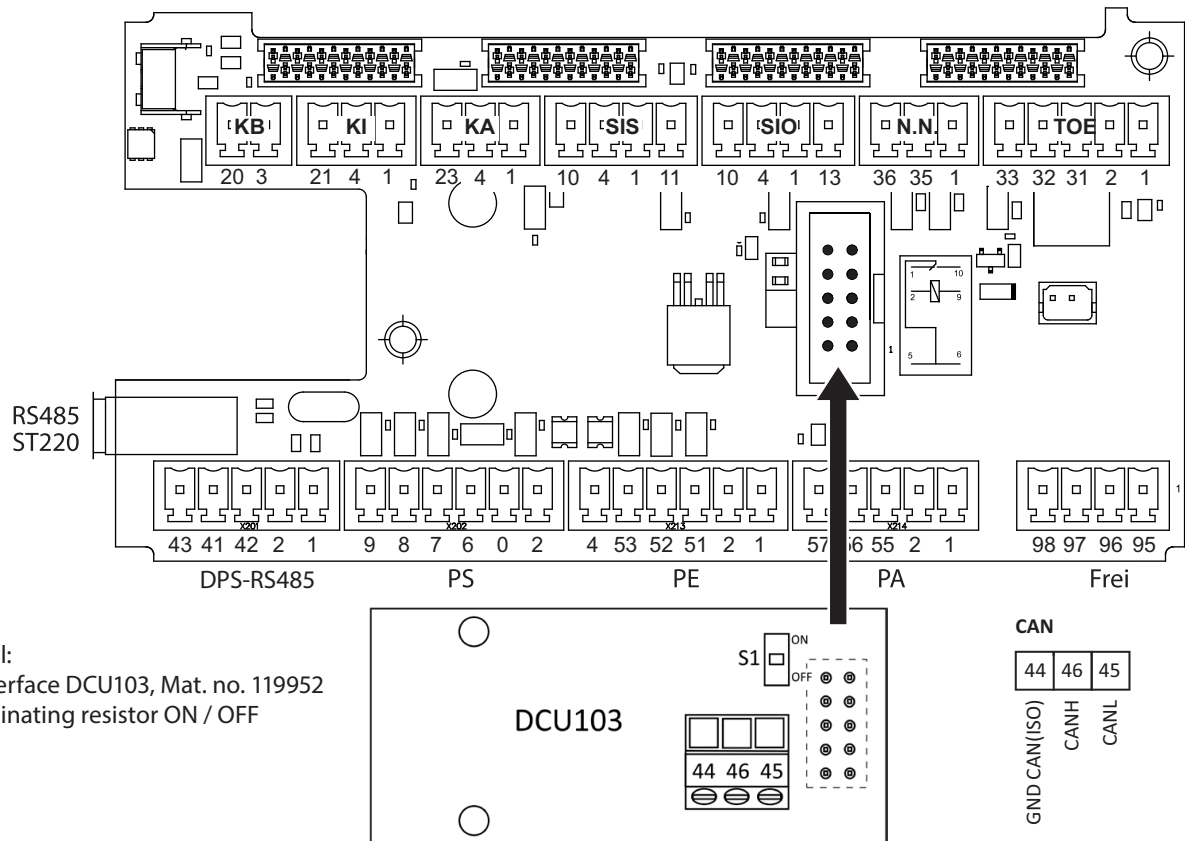
Optional:
CAN interface DCU103, Mat. no. 119952
S1: Terminating resistor ON / OFF
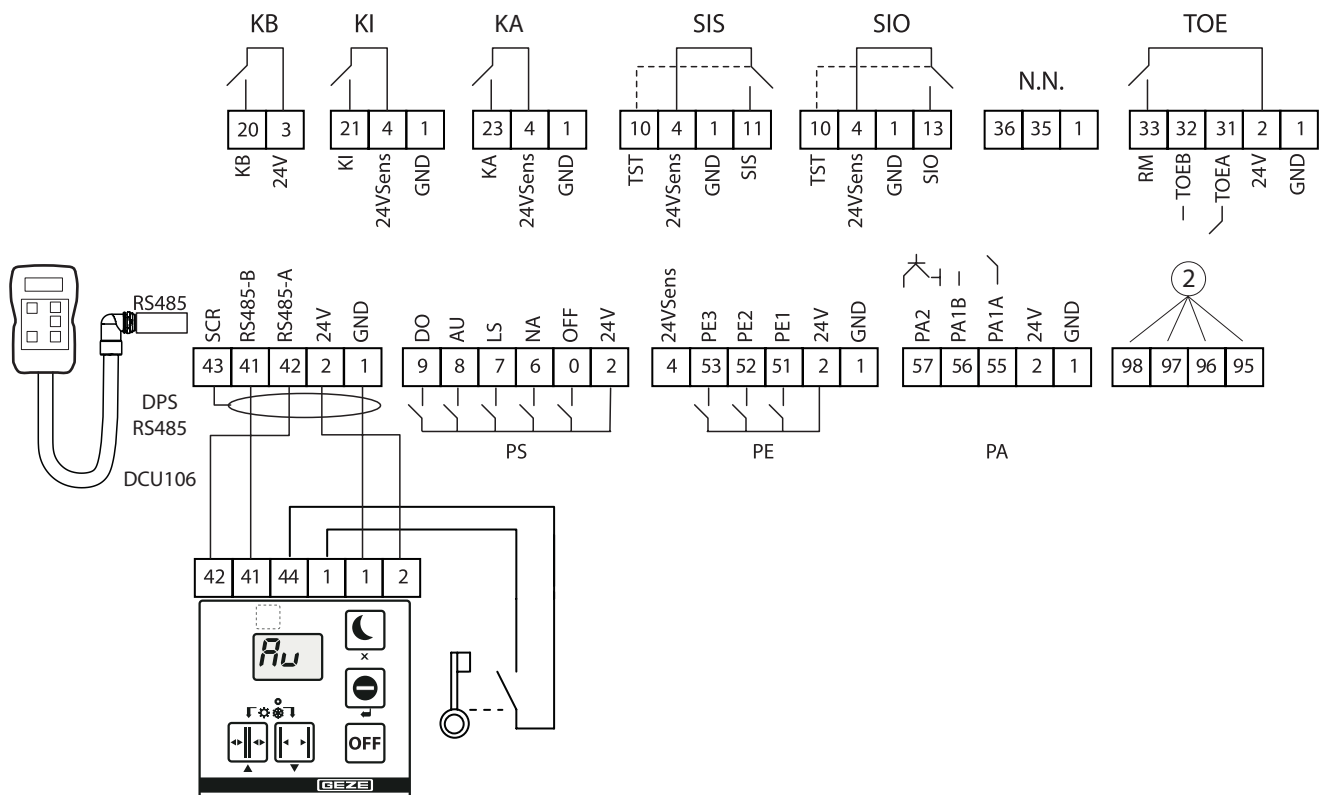
1   Socket DCU103
2   FREE

5 "Open" and "close" safety sensor

▶ In the case of 2-leaf systems, connect the safety sensors of the active leaf with the active leaf control and those of the passive leaf with the passive leaf control.
▶ Install the sensor for monitoring closing on the door leaf, opposite hinge side.
  If the SIS is activated during closing, the door reverses and opens again.
▶ Install the sensor for monitoring opening on the door leaf, hinge side.
  The door stops if the SIO is activated during opening.

For detection, the sensor output is open (GND applied to SIS or SIO input).
▶ Check the function and correct setting of the sensors during commissioning and when servicing the assembly.
▫ To operate the DPS DPS see chapter 27.4 "DPS (DPS)".
▫ To operate the service terminal ST220 see chapter 27.1 "Service terminal ST220".
The state of the drive to which the ST220 is connected is displayed.
▶ Press the ↵ button.
▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵key.
▶ In the selection menu, use the ▲ or ▼ key to select "Signals" and then press the ↵key.

For further settings, see the descriptions below.
The wall blanking range of the sensor strip SIO is set automatically during the teaching procedure.
If necessary, it can be changed with DPS or ST220 via the service menu, with
▫ DPS: Set the parameter Ab to the desired wall blanking range (1° to 99°)
▫ ST220: Set "Input signals", "SI3 – terminal SIO1", "SI3 wall blanking area" to the desired value (1° to 99°).

5.1 Safety sensor strip pair GC 338

ℹ️ __EN 16005__

▶ Follow installation instructions GC 338.
▫ Accessories:
  ▫ Spot finder, mat. no. 112321

ℹ️ ▫ The connector plug of the GC 338 has 6 poles. Terminal 6 is not occupied.
▫ To save energy, the Powerturn can automatically switch the GC 338 to standby mode if it is not required. In order to do so, the Powerturn must be equipped with firmware above V1.8.
▫ "Energy-saving mode" must be activated on the Powerturn and on the GC 338.
▫ Both operating modes conform to DIN 18650 or EN 16005.

Standard operation
▶ Set DIP switch 3 (TST/SBY) on the GC 338 interface module to ON (default setting).
▶ Set the "Testing" parameter.
  ▫ DPS: Set tE to 01 (testing with 24 V).
  ▫ ST220:   Set "Output signals", "Testing SI" to "Testing with 24 V".

Energy-saving mode

ℹ️ The SIS and SIO must be set to testing "Energy-saving mode".

▶ Set DIP switch 3 (TST/SBY) on the GC 338 interface module to OFF.
▶ Set the "Testing" parameter.
  ▫ DPS: Set tE to 03 (energy-saving mode).
  ▫ ST220:   Set "Output signals", "Testing SI" to "Energy-saving mode".

5.1.1 Monitoring closing and opening

Standard operation
▶ Setting the "Contact type" parameter;
  ▫ DPS: Set _5 1_ and _53_ to _02_ ("NC") (default setting).
  ▫ ST220: Set the "Input signals", "SI1 – terminal SIS", "SI1 contact type" to "NC" and "SI3 – terminal SIO", "SI3 contact type" to "NC" (default setting).

Energy-saving mode
▶ Setting the "Contact type" parameter;
  ▫ DPS: Set _5 1_ and _53_ to _03_ (frequency) (default setting).
  ▫ ST220: Set the "Input signals", "SI1 – terminal SIS", "SI1 contact type" to "frequency" and "SI3 – terminal SIO", "SI3 contact type" to "frequency".

▶ Setting the Function parameter:
  ▫ DPS: Set _F 1_ to the desired function and _F3_ to _05_ (SIO stop) or _06_ (SIO stop SF-GF).
  ▫ ST220: Set the "Input signals", "SI1 – terminal SIS", "SI1 function" to the desired function and "SI3 – terminal SIO", "SI3 function" to "SIO stop" or "SIO stop SF GF".
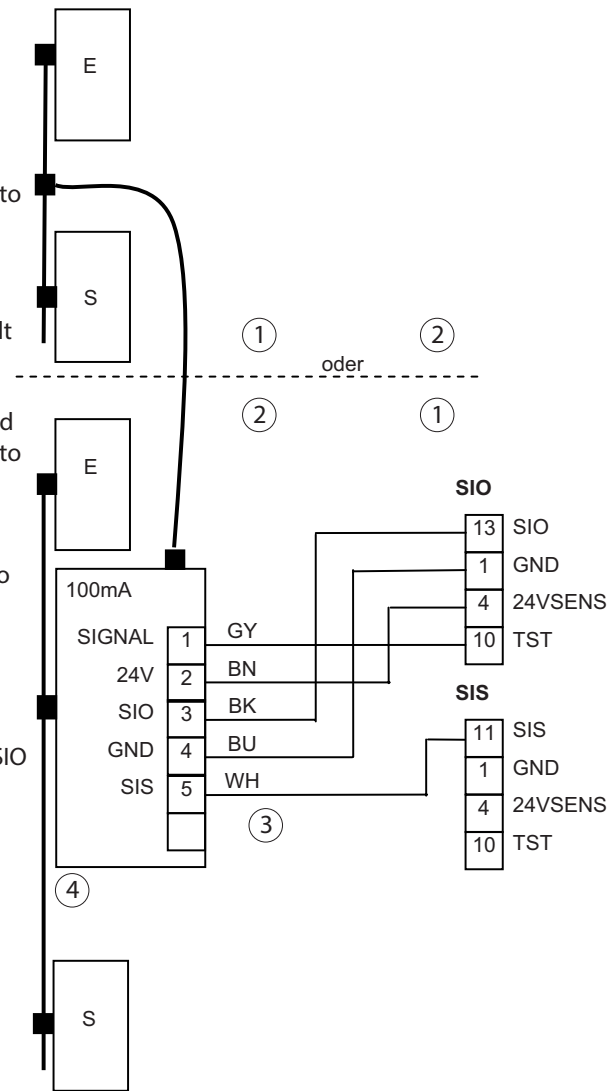
1   Opposite hinge side
2   Hinge side
3   Door transmission cable
4   GC 338 interface module

5.1.2   Monitoring opening

Standard operation
▶ Setting the "Contact type" parameter:
   ▫ DPS: Set *53* to *02* ("NC")
               (default setting).
   ▫ ST220:   Set the "Input signals", "SI3 – terminal SIO",
               "SI3 contact type" to "NC"
               (default setting).
   ▫ S1, S2:   Set parameter 9 to 02 (NC).

Energy-saving mode
▶ Setting the "Contact type" parameter;
   ▫ DPS: Set *53* to *03* (frequency)
               .
   ▫ ST220:   Set the "Input signals", "SI3 – terminal SIO",
               "SI3 contact type" to "frequency".

▶ Setting the Function parameter:
   ▫ DPS: Set *F3* to *05* (SIO stop) or
               06 (SIO stop SF-GF).
   ▫ ST220:   Set the "Input signals", "SI3 – terminal SIO",
               "SI3 function" to "SIO stop" or
               "SIO stop SF GF".
   ▫ S1, S2:   Set parameter 10 to 05 (SIO stop) or
               06 (SIO stop SF GF).

1	Opposite hinge side	
2	Hinge side	
3	Door transmission cable	
4	GC 338 interface module	

5.1.3   Monitoring closing

Standard operation
▶ Setting the "Contact type" parameter:
  ▫ DPS: Set *S1* to *02* ("NC")
             (default setting).
  ▫ ST220:   Set the "Input signals", "SI1 – terminal SIS",
             "SI1 contact type" to "NC"
             (default setting).
  ▫ S1, S2: Set parameter 7 to 02 (NC)   (default set-
             ting).

Energy-saving mode
▶ Setting the "Contact type" parameter;
  ▫ DPS: Set *S1* to *03* (frequency).
  ▫ ST220:   Set the "Input signals", "SI1 – terminal SIS",
             "SI1 contact type" to "frequency".

▶ Setting the Function parameter:
  ▫ DPS: Set *F1* to the desired function.
  ▫ ST220:   Set the "Input signals", "SI1 – terminal SIS",
             "SI1 function" to the desired function.
  ▫ S1, S2: Set parameter 8 to the desired function.
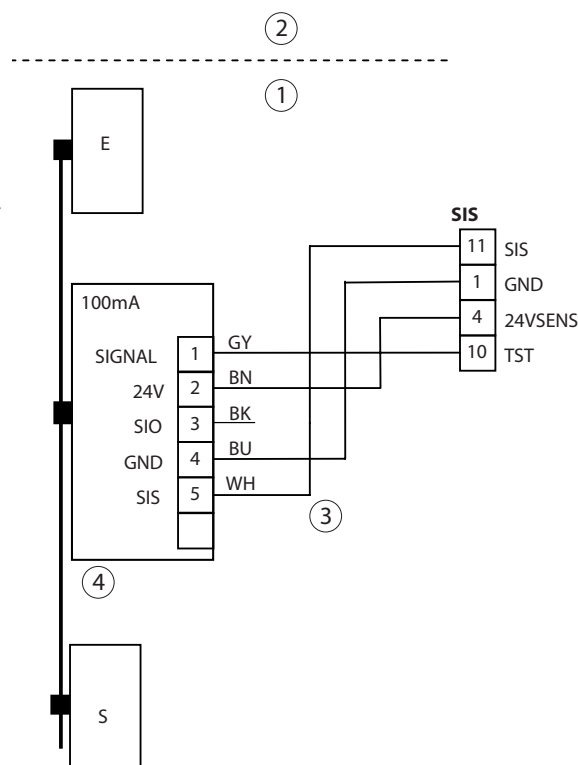
1   Opposite hinge side
2   Hinge side
3   Door transmission cable
4   GC 338 interface module

5.2   Safety sensor GC 342

ℹ️   **EN 16005**

▫ Safety sensor GC 342
▫ Follow installation instructions GC 342
▫ Accessories (optional)
  ▫ Remote control, mat. no. 100061
  ▫ For further accessories see installation instructions GC 342

Sensor position
▶ Mount safety sensor to the door leaf as indicated in the GC 342 installation instructions.
▶ Set the testing parameters.
  ▫ DPS: Set *tE* to *03* (testing with GND).
  ▫ ST220:   Set "Output signals", "Testing SI" to "Testing with GND".

5.2.1 Monitoring closing and opening

1	Door transmission cable
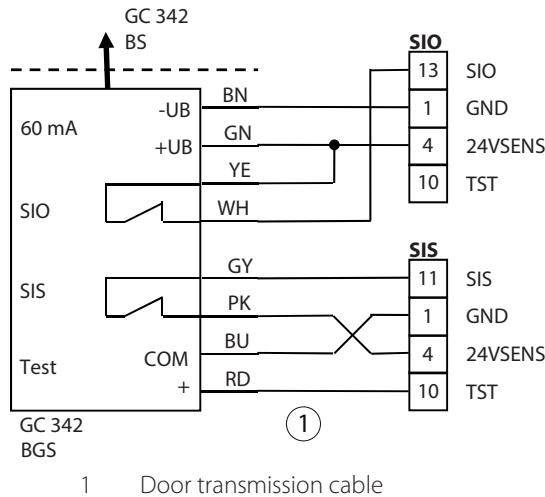
GC 342 settings

ℹ️
- □ See installation instructions GC 342.
- □ GEZE recommends using the optional remote control to change the sensor parameters.

DCU8 settings
- ▶ Setting the "Contact type" parameter:
  - □ DPS: Set $5I$ and 53 to 02 ("NC") (default setting).
  - □ ST220: Set the "Input signals", "SI1 – terminal SIS", "SI1 contact type" to "NC" and "SI3 – terminal SIO", "SI3 contact type" to "NC" (default setting).
- ▶ Setting the Function parameter:
  - □ DPS: Set FI to the desired function and $F3$ to 05 (SIO stop) or 06 (SIO stop SF-GF).
  - □ ST220: Set the "Input signals", "SI1 – terminal SIS", "SI1 function" to the desired function and "SI3 – terminal SIO", "SI3 function" to "SIO stop" or "SIO stop SF GF".

5.2.2 Monitoring opening

1	Door transmission cable

DCU8 settings
- ▶ Setting the "Contact type" parameter:
  - □ DPS: Set 53 to 02 (NC) (default setting).
  - □ ST220: Set the "Input signals", "SI3 – terminal SIO", "SI3 contact type" to "NC" (default setting).
- ▶ Setting the Function parameter:
  - □ DPS: Set $F3$ to 05 (SIO stop) or 06 (SIO stop SF-GF).
  - □ ST220: Set the "Input signals", "SI3 – terminal SIO", "SI3 function" to "SIO stop" or "SIO stop SF GF".

5.2.3 Monitoring closing

1 Door transmission cable

DCU8 settings
▶ Setting the "Contact type" parameter:
  □ DPS: Set 5 l to 0 2 ("NC") (default setting).
  □ ST220: Set the "Input signals", "SI1 – terminal SIO", "SI1 contact type" to "NC" (default setting).
▶ Setting the Function parameter:
  □ DPS: Set F l to the desired function.
  □ ST220: Set the "Input signals", "SI1 – terminal SIS", "SI1 function" to the desired function.

5.3 Safety sensor GC 334

i **EN 16005**

  □ GC 334 module, mat. no. 126410
  □ Follow the installation instructions
  □ Accessories:
    □ Interface GC 334, mat. no. 128306
    □ Spot finder, mat. no. 112321
▶ Setting the testing:
  □ DPS: Set tE to 0 2 (testing with GND).
  □ ST220: Set "Output signals", "Testing SI" to "Testing with GND".
  □ Max. 6 modules in series

5.3.1 Monitoring closing and opening

▶ Setting the "Contact type" parameter:
  □ DPS: Set 5 l to 0 2 (NC) and
           53 to 0 2 (NC) (default setting).
  □ ST220: Set the "Input signals", "SI1 – terminal SIS1",
           "SI1 contact type" to "NC" and
           "SI3 – terminal SIO1", "SI3 contact type"
           to "NC"(default setting).
▶ Setting the Function parameter:
  □ DPS: Set F l to the desired function and F3 to
           0 5 (SIO stop) or 0 6 (SIO stop SF GF).
  □ ST220: Set the "Input signals", "SI1 – terminal
           SIS1", "SI1 function" to the desired func-
           tion and "SI3 – terminal SIO1", "SI3 func-
           tion" to "SIO stop" or "SIO stop SF GF".
  □ Configuration of the GC 334 modules on the
    □ Hinge side: DIP1 = ON
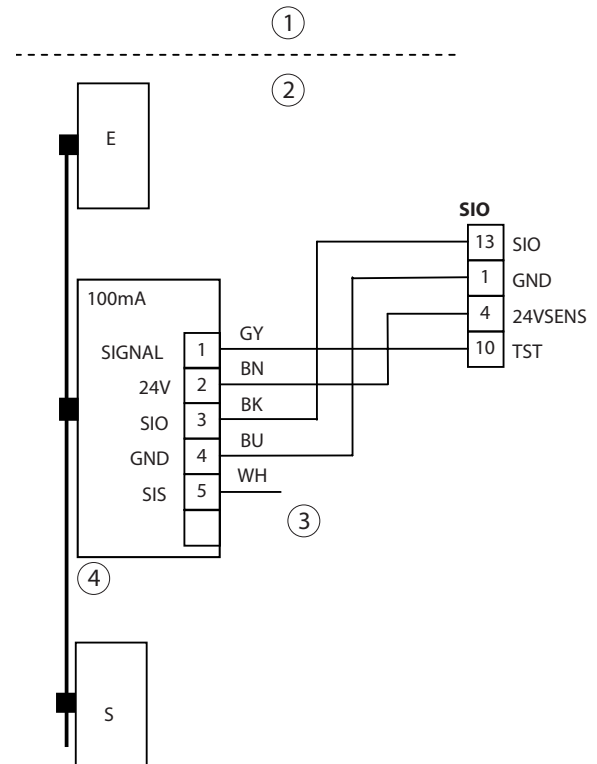   □ Opposite hinge side: DIP1 = OFF

1 Door transmission cable
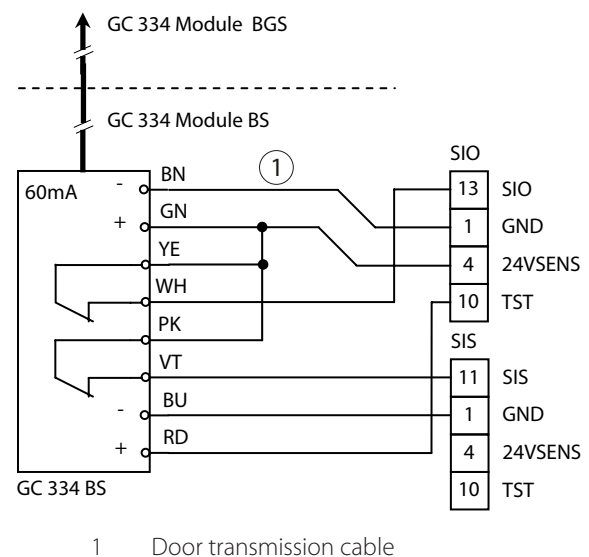
5.3.2 Monitoring opening

▶ Setting the "Contact type" parameter:
- DPS: Set *53* to *02* (NC) (default setting).
- ST220:   Set the "Input signals", "SI3 – terminal SIO1" and "SI3 contact type" to "NC" (default setting).

▶ Setting the Function parameter:
- DPS: Set *F3* to *05* (SIO stop) or *06* (SIO stop SF-GF).
- ST220:   Set the "Input signals", "SI3 – terminal SIO1" and "SI3 function" to "SIO stop" or "SIO stop SF GF".

- GC 334 module configuration: DIP1 = ON
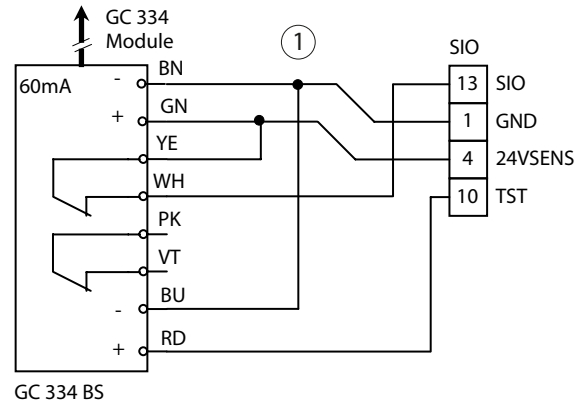
1   Door transmission cable

5.3.3 Monitoring closing

▶ Setting the "Contact type" parameter:
- DPS: Set *51* to *02* (NC) (default setting).
- ST220:   Set the "Input signals", "SI1 – terminal SIS1" and "SI1 contact type" to "NC" (default setting).

▶ Setting the Function parameter:
- DPS: Set *F1* to the desired function.
- ST220:   Set the "Input signals", "SI1 – terminal SIS1" and "SI1 function" to the desired function.

- GC 334 module configuration: DIP1 = OFF

1   Door transmission cable

5.3.4 GC 334 connection over interface GC 334
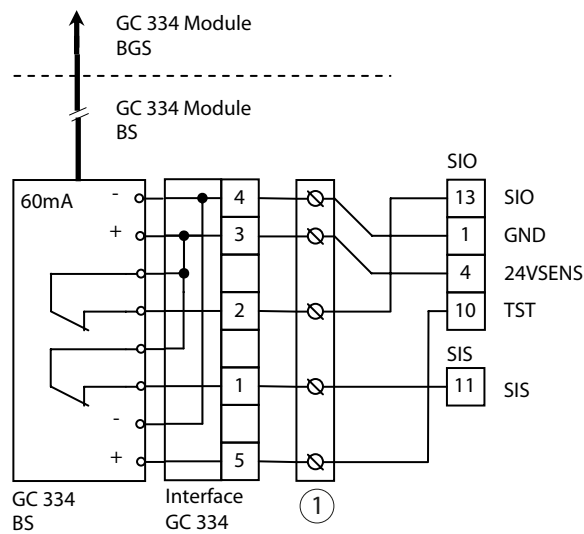
1   Door transmission cable

5.4 Safety sensor GC 335

i   **EN 16005**

- □ GC 335 master module, mat. no. 128074
  GC 335 extension kit (slave module with accessories), mat. no. 128072
- □ Follow the installation instructions
- □ Accessories:
  - □ GC 332 adapter, mat. no. 124035
  - □ Spot finder, mat. no. 112321
- ▶ Use the reference body, mat. no. 120190, to set the detection field.
- ▶ Always install the master module near the hinge, connection with the 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).
- ▶ Set the "Testing" parameter.
  - □ DPS: Set tE to 01 (testing with 24 V).
  - □ ST220:   Set "Output signals", "Testing SI" to "Testing with 24 V".
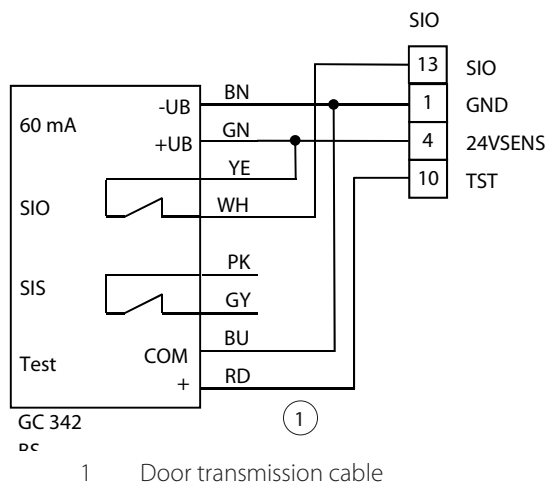
5.4.1 Monitoring closing and opening

▶ Setting the "Contact type" parameter:
  ▫ DPS: Set 51 to 02 (NC) and
              53 to 02 (NC) (default setting).
  ▫ ST220:   Set the "Input signals", "SI1 – terminal SIS1", "SI1 contact type" to "NC" and
              "SI3 – terminal SIO3", "SI3 contact type" to "NC" (default setting).
▶ Setting the Function parameter:
  ▫ DPS: Set $F1$ to the desired function and
              $F3$ to 05 (SIO stop) or 06 (SIO stop SF GF).
  ▫ ST220:   Set the "Input signals", "SI1 – terminal SIS1", "SI1 function" to the desired function and
              "SI3 – terminal SIO1", "SI3 function" to "SIO stop" or "SIO stop SF GF".
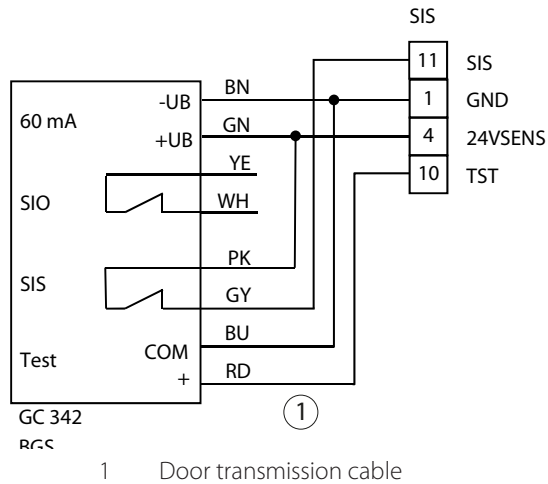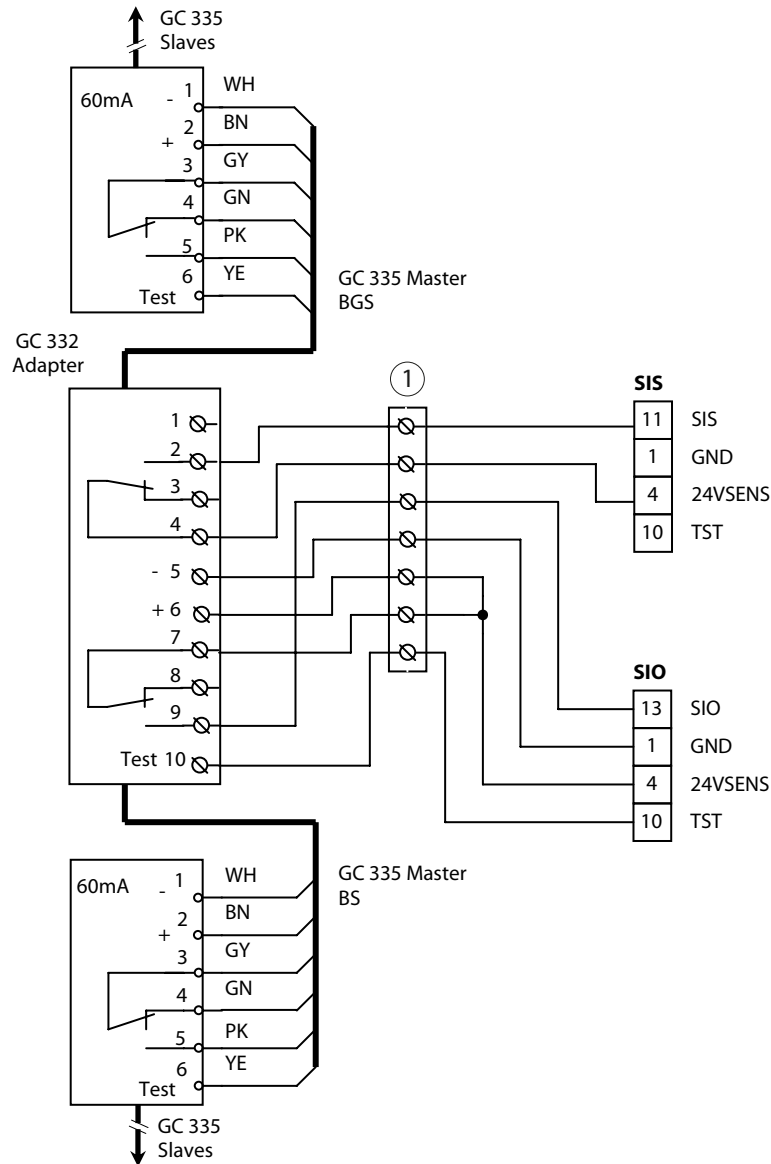

1   Door transmission cable

5.4.2   Monitoring opening

▶ Setting the "Contact type" parameter:
  ▫ DPS: Set *53* to *02* (NC) (default setting).
  ▫ ST220:   Set the "Input signals", "SI3 – terminal SIO1" and "SI3 contact type" to "NC" (default setting).
▶ Setting the Function parameter:
  ▫ DPS: Set *F3* to *05* (SIO stop) or *06* (SIO stop SF-GF).
  ▫ ST220:   Set the "Input signals", "SI3 – terminal SIO1", "SI3 function" to "SIO stop" or "SIO stop SF GF".
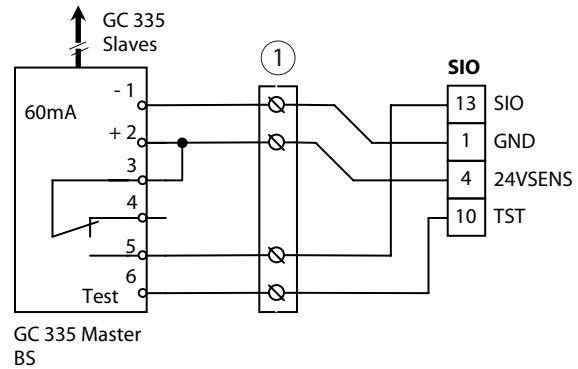
1   Door transmission cable

5.4.3   Monitoring closing

▶ Setting the "Contact type" parameter:
  ▫ DPS: Set *51* to *02* (NC) (default setting).
  ▫ ST220:   Set the "Input signals", "SI1 – terminal SIS1" and "SI1 contact type" to "NC" (default setting).
▶ Setting the Function parameter:
  ▫ DPS: Set *F1* to the desired function.
  ▫ ST220:   Set the "Input signals", "SI1 – terminal SIS1" and "SI1 function" to the desired function.
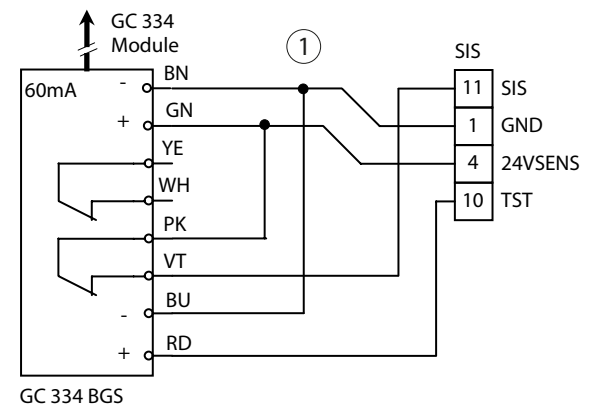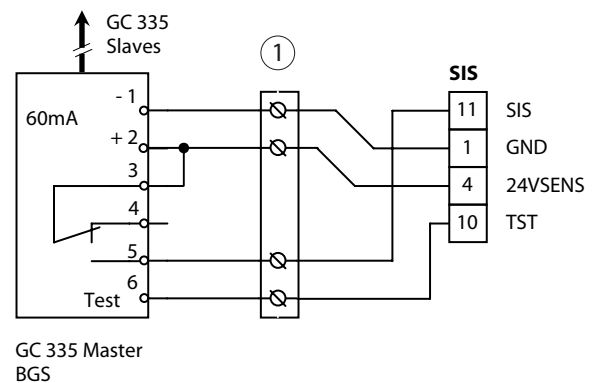

1   Door transmission cable

6   Mechanical contact

▫ The input KB is active in the AU, LS and NA modes of operation.
▫ In the case of 2-leaf systems, the mechanical contact can be connected to the active leaf control or to the passive leaf control.
▫ Upon activation, the active leaf opens and, if switched on, the passive leaf opens.
▫ During activation, the output of the mechanical contact is closed, and 24 V is applied at the KB input (NO contact). 0 V is applied to the contact set as the normally closed contact.

The state of the drive to which the ST220 is connected is displayed.

▶ Press the ↵ button.
▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵ key.

For further settings, see the descriptions below.

▫ Setting the "Contact type" parameter:
  ▫ With DPS: Set *C6* to *01* (NO contact) or *02* (NC).
  ▫ With ST220: Set the "Signals", "Input signals", "KB", "KB contact type" to " NO contact " or "NC".

6.1   Key switch

▫ Set the Contact type parameter with:
  ▫ DPS: Set *C6* to *01* (factory setting).
  ▫ ST220:   Set the "Signals", "Input signals", "KB", "KB contact type" to " NO contact " (default setting).
▫ Key switch SCT, single-pole, flush-mounted, AS500 without euro profile half cylinder, mat. no. 117996
▫ Accessories:
  ▫ Euro Profile half cylinder, mat. no. 090176
  ▫ Additional contact, mat. no. 024467
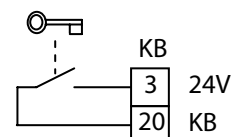
7   Contact sensor inside

- ▫ The input KI is active in the operating modes AU and LS.
- ▫ In the case of 2-leaf systems the contact sensor inside (KI) can be connected to the active leaf control or to the passive leaf control.
- ▫ Upon activation, the active leaf opens and, if switched on, the passive leaf opens.

The state of the drive to which the ST220 is connected is displayed.

▶ Press the ↵ button.

▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵ key.

For further settings, see the descriptions below.

- ▫ The sensor for monitoring closing can also be used as a contact sensor inside.
- ▫ Set the parameters with:
  - ▫ DPS: Set *F1* to *03*.
  - ▫ ST220:   Set the "Signals", "Input signals", "SI1 – terminal SIS1", "SI1 function" to "SIS and KI".
- ▫ An activation delay time can be set for the KI input. This time is added to the general activation delay time (opening delay).
- ▫ Set the parameters with:
  - ▫ DPS: Set *IA* to the desired delay time (0 s ... 9 s).
  - ▫ ST220:   Use the ▲ or ▼ keys to set "Signals" "Input signals", "KI" or "KI delay" to the desired delay time (0 s … 9 s) and press the ↵ key.

7.1   GC 302 R radar movement detector

- ▫ Upon activation, the output of the GC 302 R is closed (24 V applied to the KI input).
- ▫ Set the Contact type parameter with:
  - ▫ DPS: Set *C1* to *01* (default setting).
  - ▫ ST220:   Set the "Signals", "Input signals", "KI" and "KI contact type" to " NO contact " (default setting).
- ▫ GC 302 R black, mat. no. 124087
- ▫ GC 302 R according to RAL, mat. no. 124088 (remote control does not work if cover fitted, LED not visible).
- ▫ The GC 302 R is a directionally sensitive radar movement detector.
- ▫ Observe the installation instructions.
- ▫ Accessories:
  - ▫ Remote control, mat. no. 099575
  - ▫ Ceiling installation kit, mat. no. 115384
  - ▫ Rain cover, mat. no. 115339
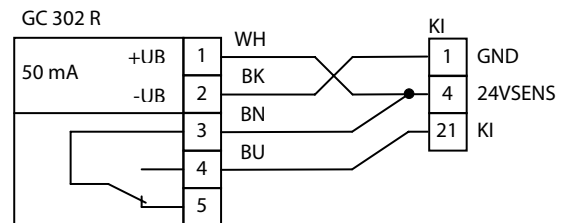
7.2   Push button (floating normally opened contact)

- ▫ Set the Contact type parameter with:
  - ▫ DPS: Set *C1* to *01* (NO contact) (default setting).
  - ▫ ST220:   Set the "Signals", "Input signals", "KI" and "KI contact type" to " NO contact " (default setting).
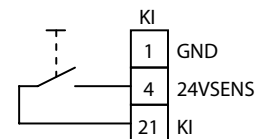
8 Contact sensor outside

▫ The KA input is only active in the AU mode of operation.
▫ In the case of 2-leaf systems, the contact sensor outside can be connected to the active leaf control or to the passive leaf control.
▫ Upon activation, the active leaf opens and, if switched on, the passive leaf opens.

The state of the drive to which the ST220 is connected is displayed.

▶ Press the ↵ button.
▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵ key.

For further settings, see the descriptions below.

▫ The sensor for monitoring closing can also be used as a contact sensor outside.
▫ Set the parameters with:
    ▫ DPS: Set *F1* to *04*.
    ▫ ST220: Set the "Signals", "Input signals", "SI1 – terminal SIS1", "SI1 function" to "SIS and KA".
▫ An activation delay time can be set for the KA input. This time is added to the general activation delay time (opening delay).
    Set the parameters with:
    ▫ DPS: Set *AA* to the desired delay time (0 s ... 9 s).
    ▫ ST220: Use the ▲ or ▼ key to set "Signals", "Input signals", "KA", "KA delay" to the desired delay time (0 s … 9 s) and press the ↵ key.

8.1 GC 302 R radar movement detector

▫ For information see GC 302 R (KI).
▫ Upon activation, the output of the GC 302 R is closed (24 V applied to the KA input).
▫ Set the Contact type parameter with:
    ▫ DPS: Set *Co* to *01* (default setting).
    ▫ ST220: Set the "Signals", "Input signals", "KA" and "KA contact type" to " NO contact " (default setting).
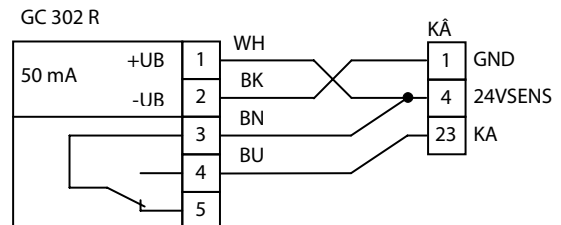
8.2 Push button (floating normally opened contact)

▫ For information see push button (KI).
▫ Set the Contact type parameter with:
    ▫ DPS: Set *Co* to *01* (default setting).
    ▫ ST220: Set the "Signals", "Input signals", "KA" and "KA contact type" to " NO contact " (default setting).
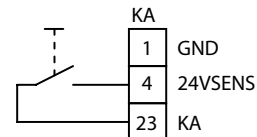
9 Radio control

9.1 Radio reception board WRB-5

ℹ️ See installation instructions WRB-5 / radio reception board, Mat. no. 135193

▫ Radio reception board WRB-5, mat. no. 135170
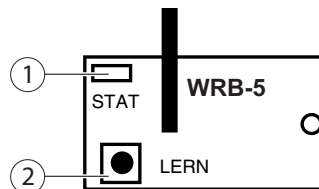
1 Status LED
2 Teaching button

▫ The radio reception board WRB-5 can optionally be plugged onto the DCU800 control.

❗ Only insert the radio reception board WRB-5 into the DCU800 control when powered down.

9.2 Insert the radio reception board WRB-5 to the control circuit board DCU800
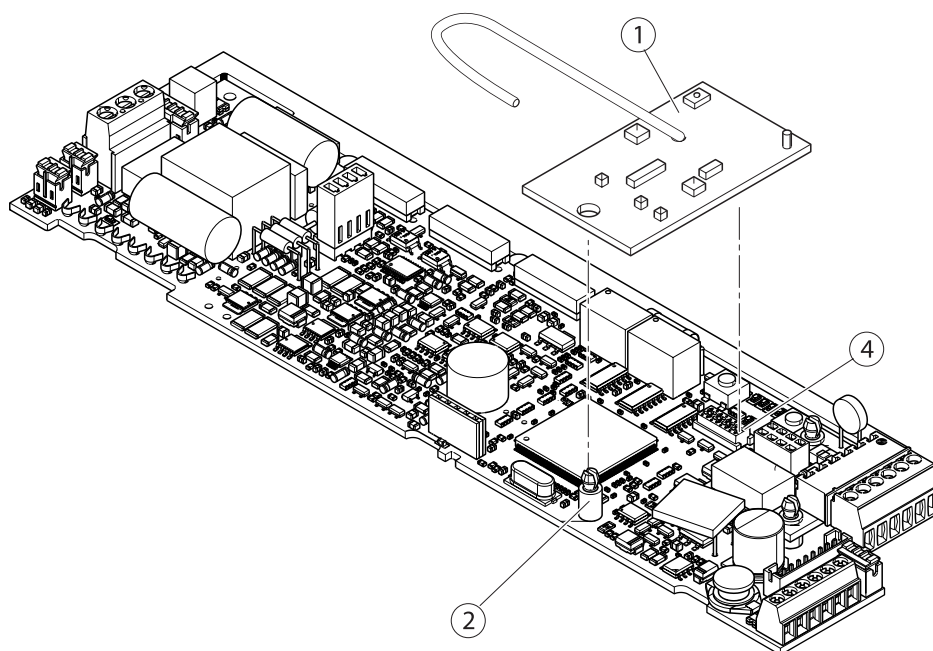
▶ Press spacer (2) onto the control circuit board DCU800 (3).
▶ Set the radio reception board WRB-5 (1) onto spacer (2) and connector strip (4).
▶ Move the aerial to the right position, see figure.

9.3 Transmitting module WTM

Transmitting module WTM, mat. no. 131212

ℹ️ See the GEZE Automatic Wireless Programme installation and service instructions

10 Push And Go

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

- □ The Push And Go function allows activation 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 use of the automatic opening functions can be adjusted (1°–20°).
- □ For comfortable use, the opening time should not be set to the minimum value.

> ❗ An opening angle that is set too small can result in undesired automatic opening of the door.
> The door must be labeled in accordance with DIN 18650 when using this function.

- □ To operate the DPS DPS see chapter 27.4 "DPS (DPS)".
- □ To operate the service terminal ST220 see chapter 27.1 "Service terminal ST220".

The state of the drive to which the ST220 is connected is displayed.

- ▶ Press the ↵ button.
- ▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵key.

For further settings, see the descriptions below.

- □ Set the parameters with:
  - □ DPS: Set $P\!u$ to the desired opening range (1-20) to start the automatic opening function
    or
    set $P\!u$ to 00 to disable the function.
    Set OP to the desired hold-open time with "Push And Go" (0 – 60 s).
  - □ ST220: Use the or key to set the "Movement parameters", "Push And Go" to the opening range (1-20) to start the automatic opening function or set "Push And Go" to 0 to disable the function.
    Set the "Movement parameters", "Hold-open times", "Push And Go" to the desired hold-open time (0 – 60 s).

11 Configurable inputs

- □ Various special functions are assigned to the configurable inputs PE1, PE2 and PE3, see 27 ""Service menu"". The contact type required for the desired function is specified in chapter 27.5 ""Service menu DPS"", or chapter 27.3 ""Service menu ST220"".
- □ The configurable input PE1 is a pure binary input which is only suitable for the connection of NO or NC contacts - not however for the connection of the analogue programme switch MPS.
- □ Configurable inputs PE2 and PE3 are analogue inputs which are suitable for the connection of NO or NC contacts as well as for the connection of the analogue programme switch MPS, see chapter 16 ""Mode of operation"".
- □ To operate the DPS DPS see chapter 27.4 ""DPS (DPS)"".
- □ To operate the service terminal ST220 see chapter 27.1 ""Service terminal ST220"".

The state of the drive to which the ST220 is connected is displayed.

- ▶ Press the ↵ button.
- ▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵key.
- ▶ Select "Signals" "Input signals" and press the ↵key.

For further settings see the description below.

- □ Set the parameters with:
  - □ DPS: Set $E1$, $E2$ or $E3$ to the desired function.
  - □ ST220: Set "PE1", "PE1 function", "PE2", "PE2 function" or "PE3", "PE3 function" to the desired function.

11.1 MPS

See chapter 16.1 "Programme switch", "Mechanical programme switch (MPS)".
An MPS can only be connected to PE2 and PE3.

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11.2   2-leaf opening and 1-leaf opening

▫ The configurable inputs of the active leaf control can be used to change between 2-leaf opening or 1-leaf opening as required (depending on the parameter setting). For example, this may be advisable if the opening type is switched by a timer via the available programme switching inputs (NA, LS, AU, DO).

▫ A change in the mode of operation is not possible if the analogue programme switch MPS is connected, since this specifies the "2-leaf opening" or "1-leaf opening".

▫ Set the parameters with:
  ▫ DPS: Set $E1$, $E2$ or $E3$ to 03 (switch over summer) or to 04 (switch over winter).
  ▫ ST220:   Set "PE1 function", "PE2 function" or "PE3 function" to "2-leaf opening" (switch over summer) or "1-leaf opening" (switch over winter).
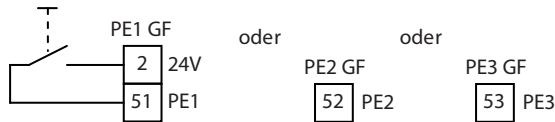
11.3   Sabotage

▫ The configurable input PE1, PE2 or PE3 can be used to connect an alarm contact which can be used to monitor a closed (key switch) housing. In the case of a closed housing, the contact is closed and 24 V is applied to input PE1, PE2 or PE3. When the alarm contact opens, 0 V is applied to input PE1, PE2 or PE3. In this case, the door remains closed and locked.
If the contact is interrupted, KB is not evaluated in the NA, LS, AU mode of operation. All other functions remain the same. Acknowledgement must then take place (delete error).

▫ Set the parameters with:
  ▫ DPS: Set $E1$, $E2$ or $E3$ to 05 (sabotage).
  ▫ ST220:   Set "PE1 function", "PE2 function" or "PE3 function" to "Sabotage NC".
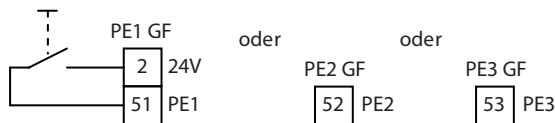
11.4   Active leaf closed position

Feedback from a door contact attached in the closed position, connected to PE1, PE2, or PE3.
The door contact closes once the door leaf has reached the closed position(active leaf).

▫ Set the parameters with:
  ▫ DPS: Set $E1$, $E2$ or $E3$ to 06 (closed position door closer GF).
  ▫ ST220:   Set "PE1 function", "PE2 function" or "PE3 function" to "closed position GF".

11.5   Emergency lock

> ⚠ **WARNING**
> **Danger of injury due to crushing and shearing!**
> The safety sensors and the obstacle are not evaluated. The door closes with the set force.
> ▶ If the door closes suddenly, move out of the hazard zone.

> ❗ Not permissible in the case of rebated doors and escape routes.
> Only a configurable input may be used.

- □ The configurable inputs PE2 and PE3 can be used to connect an emergency lock switch.
- □ When the emergency lock switch is activated, the contact is closed and 17.83 V is applied to the input PE2 or PE3. Contact sensors KA, KI, and KB, sensor strips SIS and SIO and obstacle detection are hidden. Hold open operating mode is cancelled. The door closes and locks. The function requires a terminating resistor of 20 kOhm for proper use.
- □ The door remains closed as long as the emergency lock signal is applied to the input.
- □ Set the parameters with:
  - □ DPS: Set $E2$ or $E3$ to 07 (emergency lock.20 KOhm).
  - □ ST220:   Set "PE2 function" or "PE3 function" to "Emergency lock.20KOhm NO".
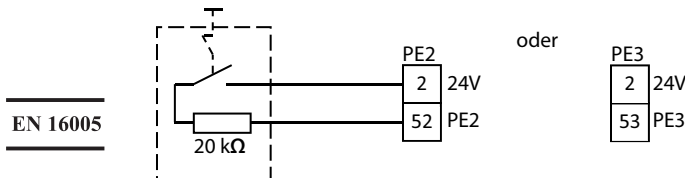
11.6   Additional contact sensors (P-KI, P-KA)

- □ The configurable inputs can be used to connect additional normally open contacts as contact sensor inside or outside.
- □ Set the parameters with:
  - □ DPS: Set $E1$, $E2$ or $E3$ to 08 (contact sensor inside) or to 09 contact sensor outside).
  - □ ST220:   Set "PE1 function", "PE2 function" or "PE3 function" to "P-KI actuation NO" or "P-KA actuation NO".
- □ For more information see chapter 7 "Contact sensor inside" or chapter 8 "Contact sensor outside".
- □ The contact sensors can either be connected to terminal 2 (24 V) or terminal 4 (24 VSens).

11.7   Switch function

11.7.1   General information

- □ Upon activation, the output of the push button is closed (24 V applied to the PE1 or PE2 input).
- □ In the case of 2-leaf systems, the push button can be connected to the active leaf controller or to the passive leaf controller.
- ▶ Set the hold-open time at the active leaf control.
- □ If the push button is connected to the passive leaf control, both door leaves open when the switch function is activated, even if the "1-leaf" mode of operation is set. The operating mode "Automatic" must be set on the passive leaf.

11.7.2   Switch function

DPS
▶ Set $E1$ or $E2$ to 10 for:
1 switch contact = open door / 2nd switch contact = close door.
If no second switch contact takes place, the door remains open until the mode of operation is changed.
For a 2-leaf drive, opening is double leaf if the button is connected to the passive leaf drive.

ST220
▶ Set "PE1", "PE1 function" or "PE2", "PE2 function" to "Push button NO" for:
1 switch contact = open door / 2nd switch contact = close door.
If no second switch contact takes place, the door remains open until the mode of operation is changed.

11.7.3 Switch function hold-open time

ℹ️ For 2-leaf drives, the settings on the active leaf control determine the hold-open time.

DPS
▶ Set $E1$ or $E2$ to 11 for:
1 switch contact = open door / 2nd switch contact = close door
If the SIO is triggered before the hold-open time or the 2nd switch contact is activated, the hold-open time runs out and is not cancelled by the 2nd switch contact.
At the latest after the end of the hold-open time
▫ oH for 2-leaf drive and 2-leaf mode of operation, if the button is connected to the passive leaf drive.
▫ or for 1-leaf drive or 2-leaf drive and the "reduced opening" mode of operation, if the push button is connected to the active leaf drive.

ST220
Set "PE1", "PE1 function" or "PE2", "PE2 function" to "Push button hold-open time NO" for:
1 switch contact = open door / 2nd switch contact = close door
Door closes no later than upon expiration of the hold-open time.-
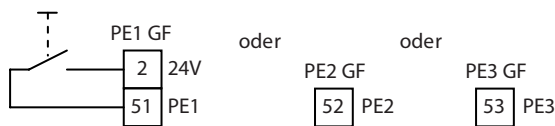
11.8 Control reset

▫ The control can be reinitialised via the configurable inputs. After the push button has been activated, the drive behaves as though the mains voltage has been switched on.
▫ Set the parameters with:
  ▫ DPS: Set $E1$, $E2$ or $E3$ to 13 (reset switch).
  ▫ ST220:   Set "PE1 function", "PE2 function" or "PE3 function" to "Reset switch NO".
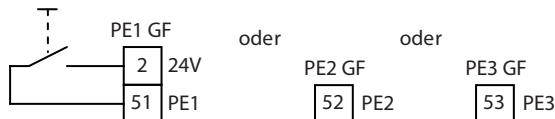
11.9 Double push button (1-leaf / 2-leaf door opening)

In the case of 2-leaf drives, the door can be opened via the configurable door inputs of the active leaf control in the 1-leaf or 2-leaf mode as desired by pressing a button if the "1-leaf opening" mode of operation is active. If the push button is pressed once, only the active leaf opens and closes after the 1-leaf hold-open time has expired. If two two buttons are pushed within 1.5 s, the active and passive leaves open and close after the end of the hold-open time 2-leaf.
Set the parameters with:
▫ DPS: Set $E1$, $E2$ or $E3$ to 14 (double push button).
▫ ST220:   Set "PE1 function", "PE2 function" or "PE3 function" to "Double push button".
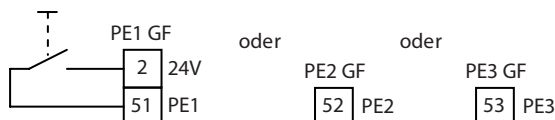
11.10   STOP

Configurable inputs PE1, PE2 and PE3 can be used for connection of a stop push button or sensor strip. Inputs PE2 and PE3 can also be evaluated in the same way.

- On activation, the door leaf stops (in case of 2-leaf systems both leaves) and remains in the stopped position as long as the input is active.
- In the case of 2-leaf systems, the stop push button can be connected to the active leaf control or to the passive leaf control.
- To operate the DPS DPS see chapter 27.4 "DPS (DPS)".
- To operate the service terminal ST220 see chapter 27.1 "Service terminal ST220".

The state of the drive to which the ST220 is connected is displayed.

▶ Press the ↵ button.

▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵key.

For further settings see the description below.

For PE1, PE2, PE3:

EN 16005 (crossed out)

- Set the Contact type parameter with:
  - DPS: Set $E1$, $E2$ or $E3$ to 15 (NO contact, not monitored) or to 16 (NC, not monitored).
  - ST220:   Set "Signals", "Input signals", "PE1 function", "PE2 function" or "PE3 function" to "Stop NC" or "Stop NO".

STOP
2 | 24V   oder   oder
51 | PE1   52 | PE2   53 | PE3

E1 = 16   E1 = 15
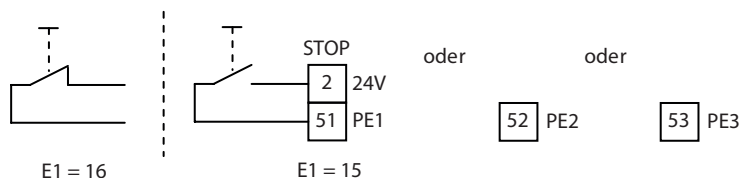
EN 16005

For PE2 or PE3:

- In order to ensure protection of persons as specified in DIN 18650 / EN 16005, a 12 k or 20 k terminating resistor must be connected to monitor the input. The terminating resistor must be directly connected to the switch contact.
- Set the Contact type parameter with:
  - DPS: $E2$ or $E3$ to 12 or 20.
  - ST220:   Set "Signals", "Input signals", "PE2" or "PE3", "PE2 function" or "PE3 function" to "Stop 12 kOhm" or "Stop 20 kOhm".

PE2   oder   PE3
2 | 24V   2 | 24V
52 | PE2   53 | PE3

12 kΩ oder
20 kΩ
E2, E3 = 12 (Stop 12 kΩ -> NO)
E2, E3 = 20 (Stop 20 kΩ -> NO)
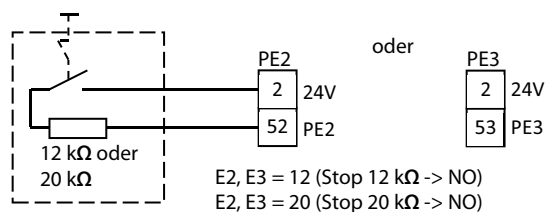
11.11   Closed position detection

11.11.1   Closed position door leaf
(passive leaf drive, active leaf drive)

Feedback from a door contact attached in the closed position, connected to PE1, PE2, or PE3 of the control. The door contact closes once the door leaf associated with the drive has reached the closed position.
Setting the parameters with
  - DPS: Set $E1$, $E2$ or $E3$ to 06 (closed position GF).
  - ST220:   Set "PE1 function", "PE2 function" or "PE3 function" to "closed position GF".

11.11.2   detection passive leaf for 2-leaf doors with manual passive leaf

- Feedback from a door contact of the passive leaf attached in the closed position, connected to PE1, PE2, or PE3. The door contact closes once the passive leaf has reached the closed position.
- Feedback from a door contact attached in the closed position, connected to PE1, PE2, or PE3. The door contact closes once the door leaf has reached the closed position (passive leaf).
- Setting the parameters with
  - DPS: Set $E1$, $e2$ or $E3$ to 19 (closed position SF).
  - ST220:   Set "PE1 function", "PE2 function" or "PE3 function" to "closed position SF".

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11.12 WC control unit

Connection to the internal push button for the WC function, see also chapter 15.

11.13 1 leaf open

- ▫ The passive leaf must be switched on.
- ▫ Upon activation, the output of the activation device is closed (24 V applied to the PE1 or PE2 input).
- ▫ In 2-leaf systems, the activation device must be connected to the active leaf controller. Set the hold-open time at the active leaf control.
  (For 2-leaf drives, the settings on the active leaf control determine the hold-open time)

DPS

Set $E1$ or $E2$
▶ Set to 23.
For a 2-leaf drive, opening is single leaf if the activation device is connected to the active leaf control.
▶ Set or on the active leaf controller.

ST220

Set "PE1", "PE1 function" or "PE2", "PE2 function"
▶ Set to "Open single leaf" for the activation device on the active leaf.
Door closes no later than upon expiration of the hold-open time.
▶ Set hold-open time single leaf (Winter) on the active leaf controller.

12 Configurable outputs

Various switching functions are assigned to configurable outputs PA1 and PA2, see chapter 27 "Service menu".
- ▫ To operate the DPS DPS see chapter 27.4 "DPS (DPS)".
- ▫ To operate the service terminal ST220 see chapter 27.1 "Service terminal ST220".
The state of the drive to which the ST220 is connected is displayed.
▶ Press the ↵ button.
▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵ key.
▶ Select "Signals" and press the ↵ key.
For further settings see the description below.
Set the parameters with:
- ▫ DPS: Set $A1$ or $A2$ to the desired function.
- ▫ ST220: Set "PA1", "PA1 function" or "PA2", "PA2 function" to the desired function.

12.1 Configurable output PA1

PA1 is a potential-free relay contact, switching voltage max. 24 V AC/DC, current 0.5 A.

12.1.1 Gong

The output is selected, if KA or SIS (for a "SIS and KA" setting) is activated in the automatic (AU) and exit only (LS) mode of operation.
- ▫ Set the parameters with:
  - ▫ DPS: Set $A1$ to 01 (Gong).
  - ▫ ST220: Set "PA1 function" to "Gong".

1   On-site voltage supply max. 24 V/0.5 A AC/DC
2   Customer signal transmitter, e.g. gong or door bell
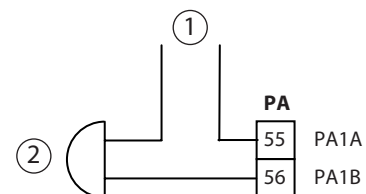
12.1.2 Fault

- □ The function is used for fault messages, e.g. to a customer building control centre. The contact closes or opens if the control determines a fault, see chapter 28 "Error messages".
- □ Set the parameters with:
  - □ DPS: Set *A1* to *02* (Fault NO contact) or to *03* (Fault NC).
  - □ ST220:   Set "PA1 function" to "Fault NO contact " or "Fault NC".

1   Building control centre (provided by customer)
2   Signal input
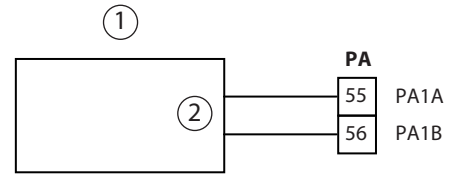
12.1.3 Fault indication for MPS

The function is used to switch the fault LED at the MPS. The contact closes if the control determines a fault, see chapter 28 "Error messages". When maintenance is due, the output is connected cyclically, and the fault LED on the MPS flashes.

- □ For connection see chapter 16.1 "Programme switch", "Mechanical programme switch (MPS)".
- □ Set the parameters with:
  - □ DPS: Set *A1* to *04* (MPS fault).
  - □ ST220:   Set "PA1 function" to "MPS fault".

12.1.4 Warning signal

- □ The function is used to cyclically switch on/off a customer signal device while the door is opened or closed.
- □ Observe the maximum permissible total current draw of the control.
- □ Set the parameters with:
  - □ DPS: Set *A1* to *05* (Warning signal).
  - □ ST220:   Set "PA1 function" to "Warning signal".
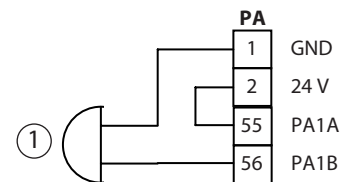
1   24 V DC signal transmitter supplied on the drive side.

12.1.5 Electric strike

🛈 The electric strike function is not permissible if the drive is used for the fire-protection area (Powerturn F, F/R, F-IS with fire protection kit).

- □ An additional electric strike can be connected to the configurable output PA1.
- □ Observe the maximum permissible total current draw of the control.
- □ Set the parameters with:
  - □ DPS: Set *A1* to *06* (Electric strike).
             Set *to* to the connected electric strike type, see chapter 27.5 "Service menu DPS".
  - □ ST220:   Set "PA1 function" to "Electric strike".
             Set "Electric strike type" to the connected electric strike type, see chapter 27.3 "Service menu ST220".

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Drive-side supplied electric strike

1   Free swing diode 1N4007, mat. no. 115293
2   Wire jumper
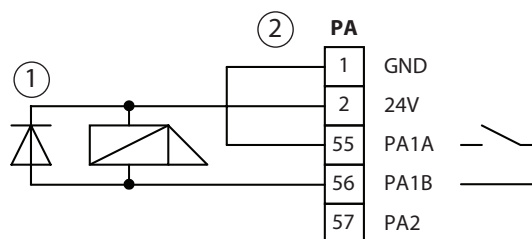
Customer-supplied electric strike

▫ Contact load output PA1 at 12 V AC: max. 1 A
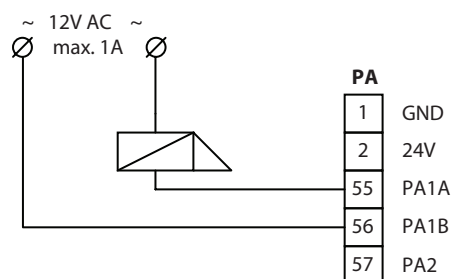
Bolt message (RM)
See chapter 13 "Electric strike", "Bolt message".

12.1.6   Door status message

▫ The function is used to signal the door status, e.g. to a customer building control centre.
▫ Message function/door mode:

08	Closed and locked	14	Exit only
09	Closed	15	Automatic
10	Not closed	16	Hold open
11	Open	18	Day/Night changeover
12	Off	20	Maintenance due (see chapter 12.1.9)
13	Night		

▫ Set the parameters with:
  ▫ DPS: Set $A1$ to the desired message function.
  ▫ ST220: Set "PA1 function" to the desired message function.

1   Building control centre (provided by customer)
2   Signal input
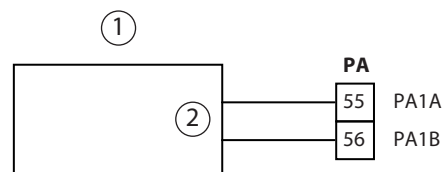
12.1.7   Light control

⚠ **WARNING**
Risk of fatal injury due to electric shock!
Danger of damage to the electrical control!
Output PA1 of the control cannot switch the illumination directly.
▶ Do not connect mains voltage to the PA1 output of the control.

▫ The function is used to activate a light controlling device which, for example, switches on the entry illumination as soon as a contact sensor (KI, KA, KB, SIS+KI, SIS+KA) is activated or the door is opened manually.
▫ Set the parameters with:
   ▫ DPS: Set $A1$ to 17 (Light control).
   ▫ ST220:   Set "PA1 function" to "Light control".

1   Light control system (provided by customer)
2   Activation input
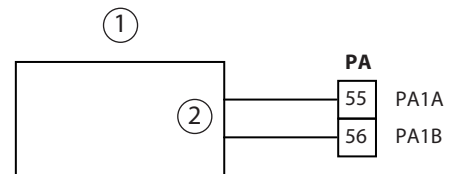
12.1.8   Day/Night changeover

▫ The function is used to mode of operation to a customer building control centre. Or for switching a motor lock to day mode operation.
The output contact closes if the mode of operation LS, AU 1-leaf, DO, AU 2-leaf or a motor lock is set.
▫ Set the parameters with:
   ▫ DPS: Set $A1$ to 18 ("Day/Night" mode of operation message).
   ▫ ST220:   Set "PA1 function" to "Day/Night changeover".
▫ Connecting a building control centre, see chapter 12.2.2 "Fault".

12.1.9   Maintenance due

▫ The function is used to signal that maintenance is due for the door drive at a customer building control centre.
▫ Set the parameters with:
   ▫ DPS: Set $A1$ to 20 (Maintenance due).
   ▫ ST220:   Set "PA1 function" to "Maintenance due".
▫ Connecting a building control centre, see chapter 12.1.2 "Fault".

12.1.10 Holding magnet GF / SF

For using a holding magnet.

12.1.11 WC timeout

To connect a lamp or a signal to signal when the 30-min. timer has expired for the WC function. See chapter 15.

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12.2 Configurable output PA2

PA2 is a transistor output, switching voltage/current max. 24 V DC / 0.5 A.

12.2.1 Gong

The output is selected, if KA or SIS (for a "SIS and KA" setting) is activated.
- Set the parameters with:
  - DPS: Set $R2$ to 01 (Gong).
  - ST220:   Set "PA2 function" to "Gong".

1	Customer power supply
2	Door gong
3	24 V relay, mat. no. 103352
4	Free swing diode
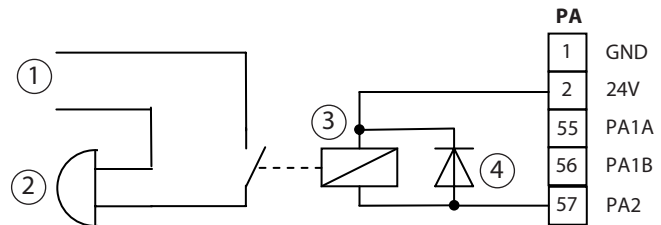
12.2.2 Fault

- The fault function is used for fault messages, e.g. to a customer building control centre.
- Set the parameters with:
  - DPS: Set $R1$ to 02 (Fault NO contact) or to 03 (Fault NC).
  - ST220:   Set "PA2 function" to "Fault NO contact " or "Fault NC".
- The output switches to GND or locks as soon as the control detects a system fault. At the same time, the corresponding fault number is displayed at DPS.
▶ A relay for galvanic isolation must be installed for forwarding the fault message (e.g. to a building management system).

1	Building control centre (provided by customer)
2	Signal input
3	24 V relay, mat. no. 103352
4	Free swing diode
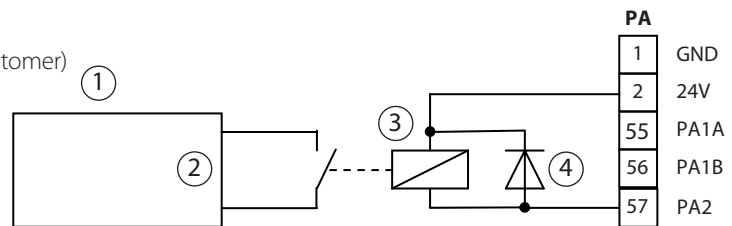
12.2.3 Fault indication for MPS

- The function is used to switch the fault LED at the MPS. The contact closes if the control determines a fault, see chapter 28 "Error messages".
- For connections, see chapter 16.1 "Programme switch", "Mechanical programme switch (MPS)"
- Set the parameters with:
  - With DPS: Set $R2$ to 04 (MPS fault).
  - With ST220: Set "PA2 function" to "MPS fault".

12.2.4 Warning signal

- The function is used to cyclically switch on/off a customer signal device while the door is opened or closed.
- Set the parameters with:
  - DPS: Set $R2$ to 05 (Warning signal).
  - ST220:   Set "PA2 function" to "Warning signal".

1	24 V DC signal transmitter supplied on the drive side.
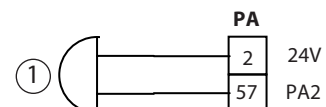
12.2.5 Electric strike

▯ The electric strike function is not permissible if the drive is used for the fire protection area (Powerturn F, F/R, F-IS with fire protection kit).

▯ Only inductive DC electric strikes (without integrated electronics) may be connected to PA2. Electric strikes with integrated electronics must be connected to the configurable output PA1, see chapter 12.1.5, "Electric strike".

▯ The function is used to activate an additional open-circuit or fail-safe electric strike.
▯ The contact closes or opens as soon as the door drive is activated.
▯ Setting the parameters with
  ▯ DPS: Set *A2* to *06* (Electric strike).
              Set *to* to the connected electric strike type, see chapter 27.5 "Service menu DPS".
  ▯ ST220: Set "PA2 function" to "Electric strike".
              Set "Electric strike type" to the connected electric strike type, see chapter 27.3 "Service menu ST220".

Drive-side supplied electric strike

1   Free swing diode 1N4007, mat. no. 115293

PA	
1	GND
2	24V
55	PA1A
56	PA1B
57	PA2
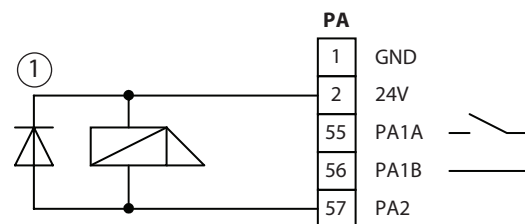
Bolt message (RM)
See chapter 13 "Electric strike", "Bolt message".

12.2.6 Door status message

▯ The function is used to signal the door status, e.g. to a customer building control centre.
▯ Door modes:

08	Closed and locked	13	Night
09	Closed	14	Exit only
10	Not closed	15	Automatic
11	Open	16	Hold open
12	Off	20	Maintenance due

▯ Set the parameters with:
  ▯ DPS: Set *A2* to the desired message function.
  ▯ ST220: Set "PA2 function" to the desired message function.
▯ Connecting a building control centre, see chapter 12.2.2, "Fault".

12.2.7 Day-night changeover

▯ The function is used to signal Day mode of operation to a customer building control centre.
  The output switches to GND, if the mode of operation LS, AU 1-leaf, DO, or AU 2-leaf is set.
▯ Connect a 24 V DC relay, mat. no. 103352, as electrical isolation.
▯ Set the parameters with:
  ▯ DPS: Set *A2* to *18* ("Day/Night" mode of operation message).
  ▯ ST220: Set "PA2 function" to "Day/Night changeover".
▯ Connecting a building control centre, see chapter 12.2.2, "Fault".

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12.2.8 Maintenance due

- □ The function is used to signal that maintenance is due for the door drive at a customer building control centre.
- □ Set the parameters with:
  - □ DPS: Set $A1$ to 20 ("Maintenance due" message).
  - □ ST220:   Set "PA1 function" to "Maintenance due".
- □ Connecting a building control centre, see chapter 12.2.2, "Fault".

1	Building control centre (provided by customer)
2	Signal input
3	24 V relay, mat. no. 103352
4	Free-wheeling diode

PA	
1	GND
2	24V
55	PA1A
56	PA1B
57	PA2
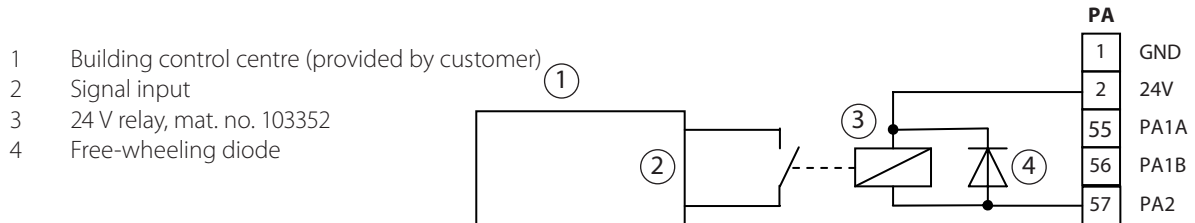
12.2.9 Holding magnet GF / SF

For using a holding magnet on the active leaf or passive leaf.

12.2.10 WC timeout

To connect a lamp or a signal to signal when the 30-min. timer has expired for the WC function.

13   Electric strike

- ▶ Connect the electric strike of the active leaf to the active leaf control and the electric strike of the passive leaf to the passive leaf control.
- □ Floating relay contact, switching voltage/current max. 24 V AC/DC, 1 A.
- □ Use electric strikes with a duty rating of ED 100.
- □ To operate the DPS DPS see chapter 27.4 "DPS (DPS)".
- □ To operate the service terminal ST220 see chapter 27.1 "Service terminal ST220".
The state of the drive to which the ST220 is connected is displayed.
- ▶ Press the ↵ button.
- ▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵key.
For further settings, see the descriptions below.
- □ Set the parameter Electric strike type with:
  - □ DPS: Set to to the desired electric strike type, see chapter 27.5 "Service menu DPS".
  - □ ST220:   Set the "Door parameters", "Electric strike type" to the desired type, see chapter 27.3 "Service menu ST220".
- □ Holding magnet MA 500 with counter plate, mat. no. 024740, for the magnetic locking of emergency exit doors.
- □ Motor lock with panic function GEZE IQ Lock EL for 1-leaf doors.
  The GEZE IQ Lock EL is a self-locking anti-panic motor lock with external control.
  See wiring diagram for motor lock IQ Lock EL.
IQ Lock SeculLogic set
(Motor lock PZ-bored, complete, incl. flat face and strike plate, motor lock control, power supply cable for control, reed switch contact as well as open drip loop)

Name	Distance [mm]	Backset [mm]	Mat. no.
IQ Lock EL 9235	92	35	103601
IQ Lock EL 9240	92	40	115013
IQ Lock EL 9245	92	45	103699
IQ Lock EL 7255	72	55	103700
IQ Lock EL 7265	72	65	103701
IQ Lock EL 7280	72	80	106571
IQ Lock EL 7210	72	100	106572

- □ When using a motor lock without bolt message, the parameters "Opening delay day" (time in which the motor lock can unlock before the drive opens the door; only applies in the operating modes automatic and exit only) or "Opening delay night" (time in which the motor lock can unlock before the drive opens the door; only applies in night mode) must be set to give the motor lock time to unlock.
- □ Set parameter dL for opening delay day or dn for opening delay night with:
  - □ DPS: Set dL to the required time (0 s … 9 s).

▫ ST220: Set "Door parameters", "Opening delay day" or "Opening delay night" to the required time.
The electric strike signal is activated until the entire opening position and over the hold-open time. After the hold-open time has expired and after a closure of approx. 10°, the electric strike signal is deactivated.

13.1 24V DC electric strike supplied on drive side

GEZE electric strike for standard applications, doors with access control

GEZE electric strike type	Mat. no.	Current consumption	Voltage	Functions
A5000--B	144590	200 mA (at 12 V) 100 mA (at 24 V)	Continuous operation: 12 or 24 V DC ±15 % Instantaneous operation: 12–48 V AC/DC	Fail-secure electric strike, standard applications, doors with access control
A5000-FB with lock latch guide	144632	200 mA (at 12 V) 100 mA (at 24 V)	Continuous operation: 12 or 24 V DC ±15 % Instantaneous operation: 12–48 V AC/DC	Fail-secure electric strike, standard applications, doors with access control
A5300--B	144631	200 mA (at 12 V) 100 mA (at 24 V)	Continuous operation: 12 or 24 V DC ±15 %	Fail-secure electric strike, standard applications
A5000--E	145182	200 mA (at 8–11 V) 50 mA (at 12-24 V)	Continuous operation: 8–28 V DC Instantaneous operation: 8-28 V AC/DC	Fail-secure electric strike, standard applications, opening under sideload with direct voltage
A5001--B with switch contact	145183	200 mA (at 12 V) 100 mA (at 24 V)	Continuous operation: 12 or 24 V DC ±15 % Instantaneous operation: 12–48 V AC/DC	Fail-secure electric strike, standard applications, doors with access control

GEZE electric strike for fire protection doors

GEZE electric strike type	Mat. no.	Current consumption	Voltage	Functions
FT500--B	144634	200 mA (at 12 V) 100 mA (at 24 V)	Continuous operation: 12 or 24 V DC ±15 % Instantaneous operation: 12–48 V AC/DC	Fail-secure electric strike, fire protection doors
FT501--E with switch contact	144647	200 mA (at 8–11 V) 50 mA (at 12-24 V)	Continuous operation: 8–28 V DC Instantaneous operation: 8-28 V AC/DC	Fail-secure electric strike, fire protection doors, opening under sideload with direct voltage

▫ Max. current consumption of 1000 mA, but pay attention to the total current consumption of all the components, especially for sfail-safe electric strikes.
▫ Working current electric strike for Powerturn:
  ▫ IQ eStrike A5000--E, mat. no. 145182
▫ Fail-secure electric strike for Powerturn:
  ▫ IQ eStrike A5300--B, mat. no. 144631
▶ Mount a free swing diode 1N4007 (1), mat. no. 115293 (no free swing diode is required for GEZE electric strikes).

1 Free swing diode
2 Wire jumper
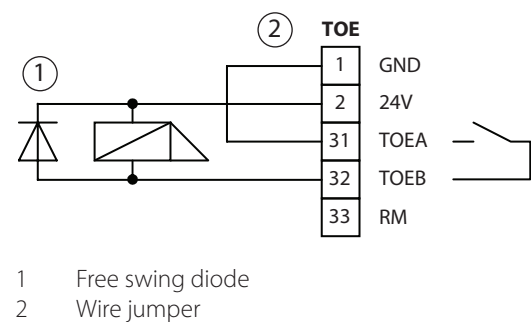
13.2 Customer-supplied 12 V AC electric strike

Contact load output PA1 at 12 V AC: max. 1 A
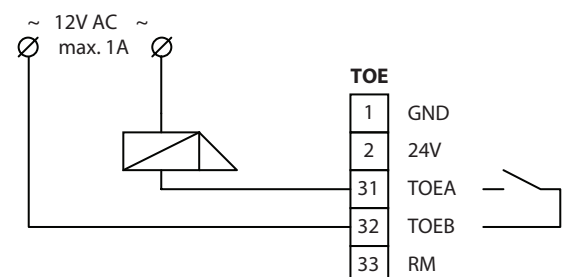
13.3   Bolt message

> When active, the DPS switches to night mode.
> An operating mode LED on the drive indicates the operating mode (e.g. green when in automatic operating mode).

- Input RM blocks the activation of the drive when the door is locked. If Input RM becomes active while the door is open, the door reverses and remains open.
- If a further electric strike is connected with
    - Normally opened contact: Circuit the contacts in parallel.
    - NC contact: Switch the contacts in series.
- Set the parameters with:
    - DPS: Set rr to 01 (NO contact) or 02 (NC).
    - ST220:   Set the "Signals", "Input signals", "Bolt contact type", "Bolt contact type" to " NO contact " or "NC".
- When the bolt feedback signal is present, bolt the drive remains in its set operation mode but the DPS switches its own state to "night".
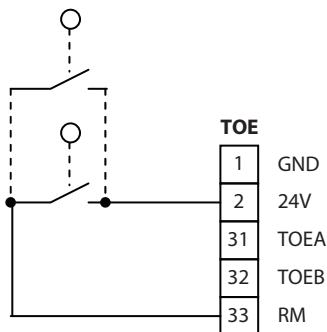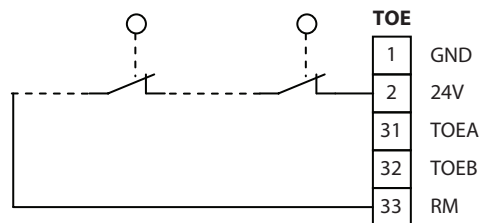
Normally opened   NC contact

13.4   Activation delay for lock switch contact

If a lock switch contact is used and "no electric strike" or "not used" is selected, the drive opens the door after a valid activation only after 2.5 s if the system has switched from "locked" to "unlocked".

14   Free cable connections

Up to 4 signals can be transmitted via the ribbon cable between connection board DCU802 and control board DCU800 using the free cable connections. For example, this is prudent if devices are installed in the attachment or intermediate cover and need to be connected to the connection board.
- Max. signal voltage: 30 V AC/DC
- Max. signal current: 0.3 A
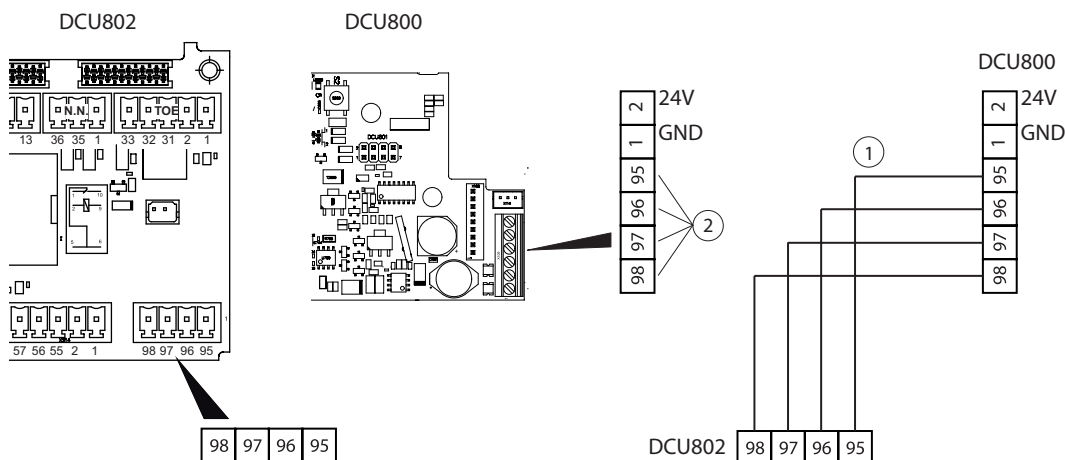
1   Internal ribbon cable
2   FREE

15   WC control

ℹ Only operates with fail-safe electric strike. For connection and configuration, see chapter 13 "Electric strike".
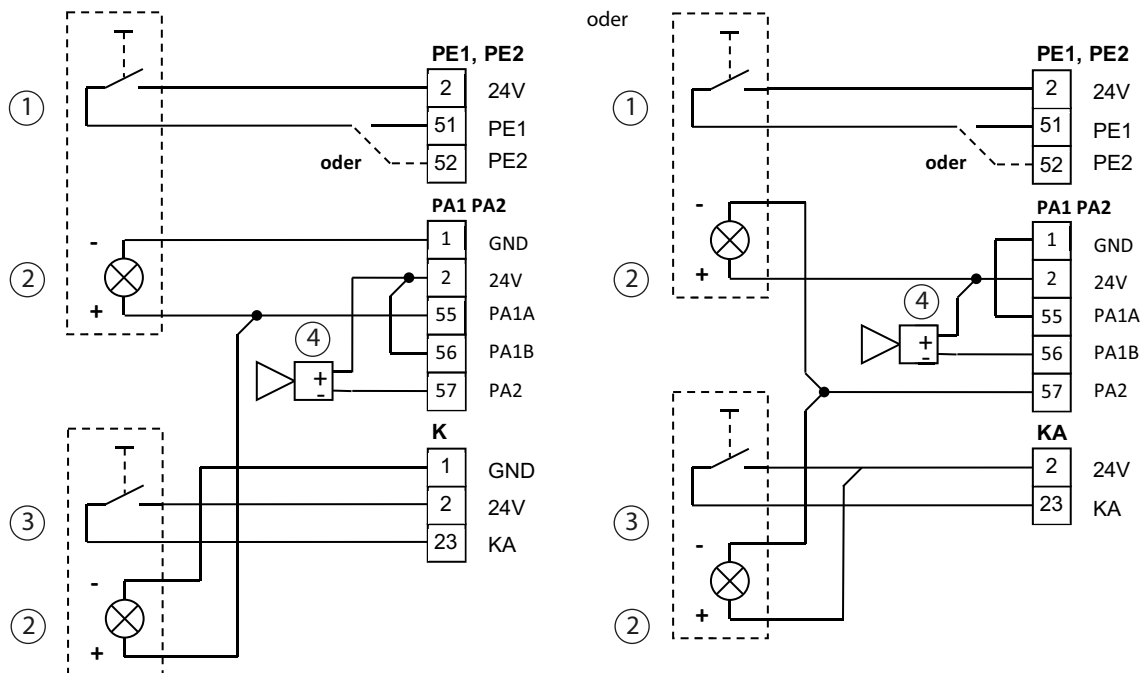
1   Internal push button (switch unit with illuminated display)
2   Illuminated OCCUPIED display
3   External push button (switch unit with illuminated display)
4   Signal horn SLH220 (optional)

Function
The control recognises the operating function "WC control" based on the parameter set for the configurable input (PE1, PE2). If the WC is not occupied, the door is in automatic mode and is in the closed position. The OCCUPIED signs are off.
When the "external push button" is activated, the WC door is opened. Once someone has entered the cubicle, the WC door is switched to exit only mode by pressing the "Internal push button" and the external push button is blocked. The OCCUPIED signs light up. The WC door is locked by the fail-safe electric strike [*]. Pressing the "Internal push button" again switches the mode of operation back to automatic. The OCCUPIED signs go out. The door opens and the "External push button" is cleared again. If the closed and locked door is opened manually from the inside or if a contact sensor mechanical contact KB is triggered, the mode of operation also switches back to automatic. The door can then be restarted by pressing KA
When the WC is monitored for permanent locking, the "WC alarm" signal is triggered after 30 minutes and an acoustic signal (signal horn) is switched on. The time cannot be set.
The operating function "WC control" is cancelled in the following cases:
▫ When the door is closed and locked and manual passing has been detected.
▫ When the door is opened from the outside using the mechanical contact (KB) (e.g. in case of an emergency).
In both cases the door can then be activated via the "Outside push button".
In the event of a power failure, the fail-safe electric strike is released and the door can be opened manually.
[*]   Locking with a panic motor lock is also possible (optional)

Illuminated OCCUPIED display
The illuminated OCCUPIED display (PA1 or PA2) is activated when switching to the exit only mode of operation.
Parameter setting:
▫ DPS:
  ▫ Set $E1$ or $E2$ to 21 (WC control), depending on the input used.
  ▫ Set $A1$ or $A2$ to 14 (illuminated display OCCUPIED).
  ▫ Set $A1$ or $A2$ to 24 (WC control alarm).
  ▫ Set or to the desired time (0–60 s).

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- ST220:
  - Set "PE1" or "PE2" to "WC control".
  - Set "PA1" or "PA2", "Function" to "Exit only".
  - Set "PA1" or "PA2", "Function" to "WC control alarm".
  - Set "Hold-open time, "1-leaf opening" to the desired time (0–60 s).

Accessories:
- Plastic elbow switch, white, mat. no. 114078
- Plastic elbow switch, stainless steel, mat. no. 114077
- Stainless steel elbow switch, mat. no. 119898
- Stainless steel elbow switch LS 990, surface-mounted, mat. no. 128582
- Stainless steel elbow switch LS 990, flush-mounted, mat. no. 128583
- SLE220 indicator lamp, flush-mounted, AS500, AW, mat. no. 115934

Optional accessories:
- SLH220, signal horn, ASW500, AW, complete, mat. no. 115939

Emergency shut-off switch
See chapter 6.1 "Key switch".

16 Mode of operation

ℹ️ The modes of operation are described in the Powerturn user manual.

- To operate the DPS DPS see chapter 27.4 "DPS (DPS)".
- To operate the service terminal ST220 see chapter 27.1 "Service terminal ST220".
- Setting and operation using
  - Service button
  - Mode of operation button

The state of the drive to which the ST220 is connected is displayed.
▶ Press the ↵ button.
▶ Select "Active leaf para" or "Passive leaf para" using the ▲ or ▼ key and press the ↵ key.
For further settings, see the descriptions below.

16.1 Programme switch

Mechanical programme switch (MPS)

- Connection to PE2 or PE3
- MPS, AS500, mat. no.113226
  MPS-ST, with key, AS500, mat. no. 113227
- Modes of operation
  OFF, NA, LS, AU 1-leaf, DO, AU 2-leaf
- Follow the installation instructions
- Accessories:
  Surface-mounted cap, single, AS500, mat. no. 120503
- For 2-leaf systems, the MPS is connected to the active leaf.
- If the MPS is used, the mode cannot be changed with DPS or via the NA, LS, AU and DO inputs.
- Set the parameters of the control to which the MPS is connected, with:
  - DPS: Set $E2$ or $E3$ to 01 (MPS).
            Set $A2$ or $A1$ to 04 (Fault display for MPS).
  - ST220: Set "Signals", "Input signals", "PE2", "PE2 function" or "PE3", "PE3 function" to "MPS" and "Signals", "Output signals", "PA2", PA2 function" to "MPS fault".

	PE1 PE2 - GF	
	1	GND
	2	24V
	51	PE1
	52	PE2
oder	53	PE3

	PA1 P A2 - GF	
	57	PA2
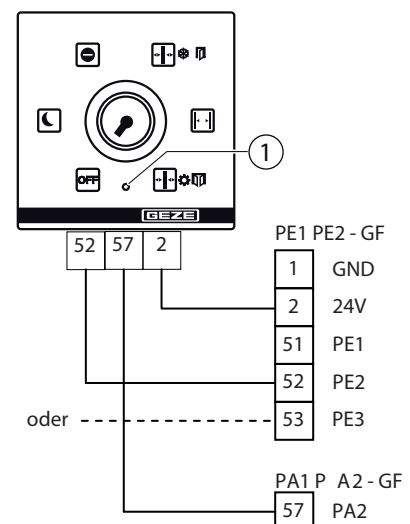
1   The LED at the MPS lights up in case of a fault and when maintenance is due; the light also blinks during maintenance.

Mechanical programme switch (MPS-D)

- MPS-D, AS500, mat. no. 118417
- MPS-D-ST, with key, AS500, mat. no. 118418
- Accessories:
  Surface-mounted cap, single, AS500, mat. no. 120503
- For 2-leaf systems, the MPS-D is connected to the active leaf.
- Set the parameter Contact type (if changed), with:
  - DPS: Setting not possible.
  - ST220: Set the "Signals", "Input signals", "AU", "Contact type" to " NO contact " and "DO", "Contact type" to " NO contact " (default settings).
    Set "NA", "Contact type" to "NC".
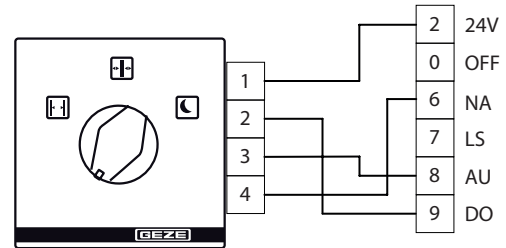
DPS (DPS) with OFF

- AS500, DPS with OFF, flush-mounted, alpine white,
  mat. no. 151524
- Operating modes: OFF, NA, LS, AU, DO, 1-leaf/2-leaf opening

▶ Observe the installation instructions.
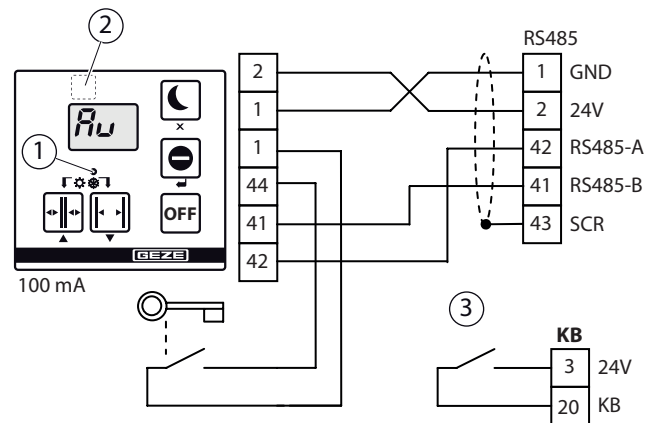
- DPS cannot be connected if the PE2 or PE3 function is set to "MPS" (only display possible).
▶ Connect DPS to the active leaf.
- Changing the mode of operation with the DPS is only possible if 24 V is not applied to NA, LS, AU, DO or to PE2 or PE3, if PE2 or PE3 is configured to OFF, 2-leaf opening or 1-leaf opening. After reconnection to the mains, the drive is in the previously set mode of operation.
- It is possible to change the mode of operation if the key switch is active or with jumper 1-44.
- Switching over between 1-leaf and 2-leaf operation:
▶ Press the ▲▼ keys simultaneously.

Operation at the DPS is not possible during the self-test, e.g. after changing the mode of operation.

1 Display 1-leaf/2-leaf operation
   (LED lights up at 1-leaf operation)
2 Concealed service push button
3 Additional contact in the key switch for activation of KB

The control can be configured using DPS.
Accessing the service menu:
▶ Simultaneously press the hidden service key and ↵.

Accessories:
- AS500, DPS with OFF and SCT, without euro profile half cylinder, flush-mounted, alpine white, mat. no. 155810
- Key switch SCT, single-pole, flush-mounted, AS500 without euro profile half cylinder, mat. no. 117996
- Euro 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

Blocking or releasing DPS operation
▫ Blocking operation by key switch

Operation of the DPS can be blocked/released by connecting a key switch to prevent the mode of operation being changed by unauthorised persons.
Operation is possible using the key switch.

▫ Blocking operation by assigning a password

Operation of the DPS can be protected by a password in the service menu to prevent the mode of operation being changed by unauthorised people.
The password can only be set and changed using the service menu on service terminal ST220.
The password for operating the DPS has 2 digits (0 ... 9).
Default setting: 00 = released

▫ Changing the mode of operation with password protection set

> ⓘ The mode of operation can also be released by actuating the key switch rather than by entering a password.

The number of times the key is pressed corresponds to the digit to be entered.
▶ Enter the first digit using ▲ key.
▶ Enter the second digit using ▼ key.

Example: The password is 37.
▶ Press the ▲ key 3 times.
▶ Press the ▼ key 7 times.

▫ Permanent release of programme switch operation
▶ For permanent release, attach a jumper between terminals 1-44 of the DPS.
– and –
▶ set the value "00" (default setting) as the password in the service menu.

16.2 Setting the mode of operation using push buttons or switches

▫ It is possible to set the mode of operation using push buttons or switches (e.g. timer).
▫ The push buttons or switches are connected to the control of the active leaf.
▫ The control switches to the desired mode if 24 V is applied to the corresponding input and remains in this mode of operation. A pulse signal is sufficient.
▫ Operation at the DPS is only possible if no signal is queued at the OFF, NA, LS, AU and DO inputs.
▫ Input NA takes precedence over inputs LS, AU and DO. If 24 V is applied at input NA the drive switches to NA mode, even if 24 V is applied to one of the other PS inputs.
▫ Set the parameter Contact type (if changed), with
  ▫ DPS: Setting not possible
  ▫ ST220: Set the "Signals", "Input signals", "NA", "Contact type" to " NO contact ". The same applies for the contact type for "LS", "AU", "OFF" and "DO" (default settings).

PS-GF	
2	24V
0	OFF
6	NA
7	LS
8	AU
9	DO
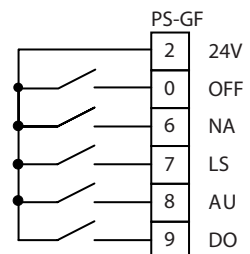
17   2-leaf drives

17.1   Two automated door leaves

- □ For parameter settings, see chapter 20 "Commissioning and service".
- ▶ Establish RS485 connection between both drives via system cable mat. no. 120048 or mat. no. 120061, see chapter 17.2 "Connection via system cable RS485".
- ▶ Establish connection to the 230 V network.

17.2   Connection via system cable RS485

Active leaf   Passive leaf
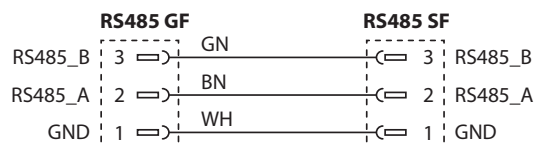
1   System cable RS485
2   Control circuit board DCU800
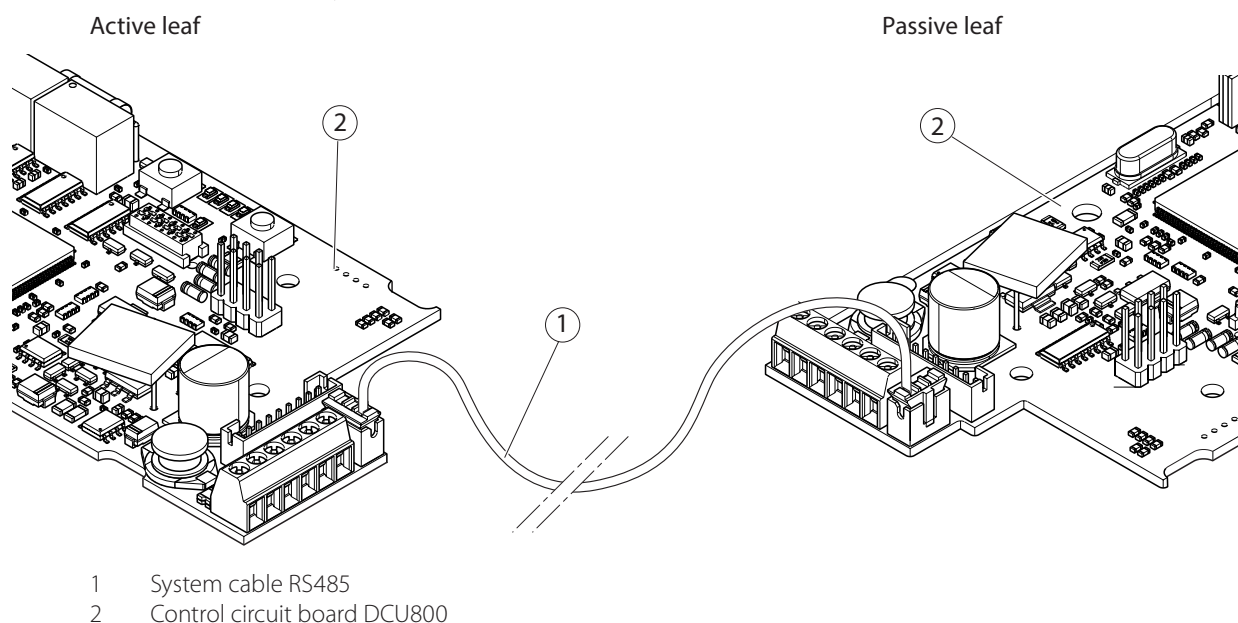
18   Motor

⚠ **WARNING**
Danger of injury through link arm or lever arm snapping back!
Danger of injury from hot motor!
- ▶ Disconnect motor from the control only if spring is not under tension.

1   Temperature sensor
2   Motor
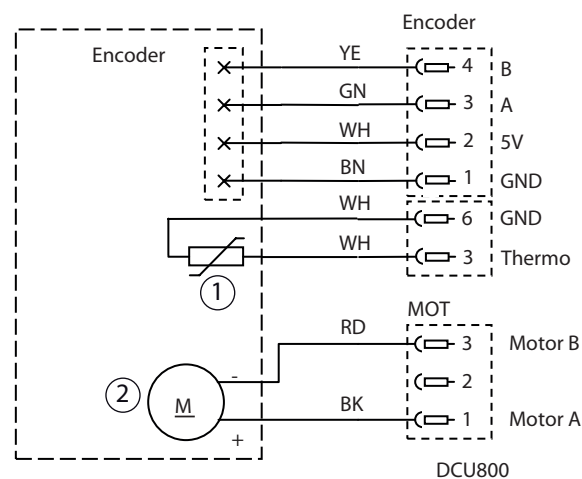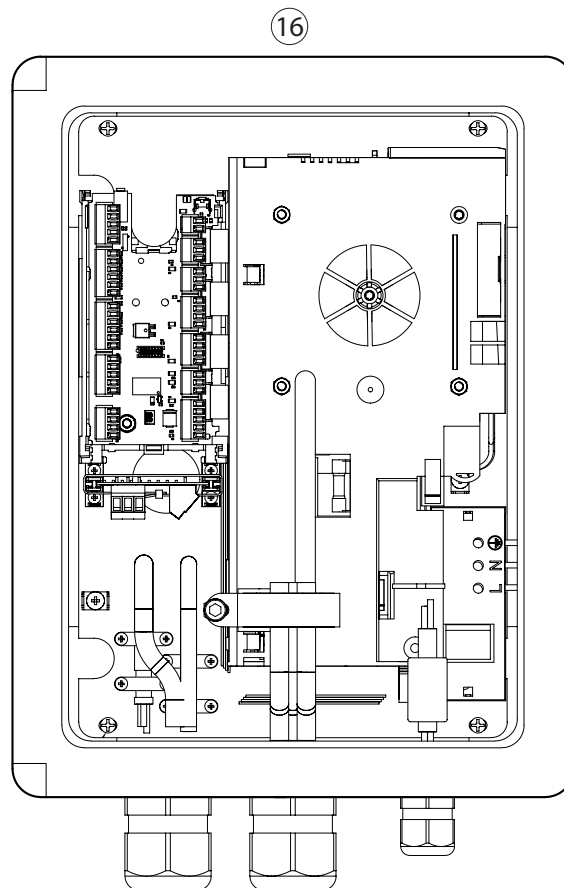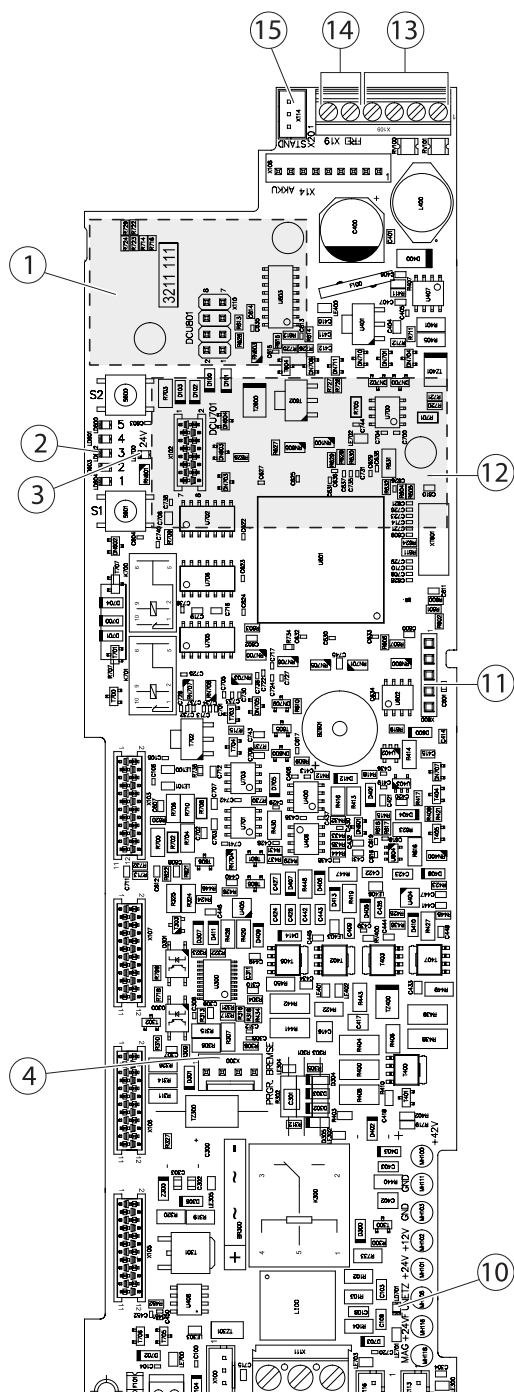
19   Control

1	Slot for F-board DCU801	10	LED solenoid valve
2	Service buttons and service LEDs	11	PROG
3	LED 24V ext	12	Slot for radio board WRB-5
4	Brake	13	FREE
5	Ventilator	14	24 V
6	Encoder	15	RS485
7	Motor	16	Control box
8	Temperature sensor		
9	Latching action switch		

20   Commissioning and service

Commissioning and service can be performed using the DPS DPS, the service terminal ST220 or the internal service keys.

20.1   Commissioning

20.1.1   Requirements

- Drive
  - attached
  - not taught
  - set to default setting
- Electrical installation is complete.
- During commissioning the DPS displays "LE".
- When newly teaching the drive: both drives to automatic operating mode.

20.1.2   Carrying out commissioning

- ▶ Check whether the drive works mechanically when de-energised (check by hand).
- ▶ Switch the mains switch on.
- ▶ Set the peripheral equipment before the teaching run.
- ▶ Perform the teaching run as described in chapter 20.2 "Teaching run".
  The safety sensor is active due to teaching wall blanking.
- ▶ Check the functionality of the safety sensors.
- ▶ Check other functions.
- ▶ The set static and dynamic forces must be measured

Optional:
The braking force in the disconnected state can be set for different door weights. See chapter 21, "Disconnected mode".

20.2   Teaching run

- For the teaching run to be carried out, the drive must be completely installed and supplied with voltage.
- The spring force required must be set before the teaching run, see Powerturn installation instructions.
- ▶ Mechanically set on drive and calibrate on the door leaf.
- If "Start teaching" is started using the parameter menu (DPS, ST220, service keys), the user has 1 minute to start the teaching process.
  - If the door is not moved within this time, the drive cancels the teaching run and retains the data previously stored.
- In the default setting the safety sensors are configured as active.
- The teaching run starts and ends in the closed position so that the drive learns the direction of opening/closing movement properly.
The following points must be observed:
- Activating the safety sensor within the movement run (part of the teaching process) does not stop the door leaf. For this reason, only complete a movement run under supervision or with passage safeguard.
- If the door leaf is blocked within the movement run, fault message 25 is issued and the teaching run must be repeated.

If a 2-leaf system has to be taught, the "Number of leaves" (EF) parameter must first be installed on both drives:
- ▶ Select the parameter with service terminal ST220 or the DPS DPS and set the value 02 for active leaf and the value 03 for passive leaf.
- ▶ Connect both drives.

The drive differentiates between two conditions:
- The drive is situated in the factory setting (factory setting) ➔ untaught
- Drive is re-taught

20.3 Teaching a 1-leaf system

Step	Actions	ST220 display	DPS display	Service LED display (5 → 1)
1	▶ Select parameter "Start teaching" and press the ENTER key. ▶ Select 1-leaf system.	Start teaching		
1	▶ Start the respective teaching in DPS (NT) ▫ LE for 1-leaf system.		LE	
1	▶ Exit display.			○ ● ● ● ●
2	A beep sounds (1 x 0.5 s).			
3a	The drive is in the condition on delivery or has been set to the default setting. The following system parameters are displayed in succession:			
	▶ Set system parameter for the present object. ⓘ ▶ When teaching using the service interface, the parameters must be set before the teaching begins, see chapter 27.5 "Service buttons S1 and S2".	Type of installation Leaf width Door weight Close safety sensor Open safety sensor	OH F8 t6 S1 S3	

	▫ Testing:
	  ▫ 24 V or energy-saving mode for GC 338
	  ▫ GND for GC 334, GC 342
		Testing
		Electric strike type
		Bolt message contact type
			tE
			to
			rr	

3b	If the teaching is carried out again, the parameter menu 3a is no longer displayed.			

4	▶ Open door leaf manually up to the desired open position.
	The drive gives out an an acoustic warning signal in order to display max. drive-related open positions. The interruption of the warning signals is always shorter, extending to the max. open position.
	❗ ▫ If the beep continues to sound, the the door leaf is in the range of the max. open position (±3°).
	  ▫ In this setting, there is a possibility that the drive does not work properly or is permanently damaged.
	  ▶ Carry out the teaching run again to avoid this.
		Open manually	L1	● ○ ○ ○ ●

5	▶ Move the door leaf by hand to the desired closed position. ▶ Push the input enter key. The display is acknowledged.	Close manually	L2	● ○ ○ ● ○
6	If GC 338 is installed: ▶ Press the "Teach In" key on the sensor and wait for 10 s. Else (if GC 338 is not installed), proceed with point 7.	Press "Teach in"	L3	● ○ ○ ● ●
7	▶ Push the input enter key. The display is acknowledged.	Press "Teach in"	L3	● ○ ○ ● ●
8	The movement run starts automatically after 2 s. ▫ Wall blanking is taught. In this run, sensors are not switched as "active". ▫ An obstacle is not identified. ▫ If a blockage is detected within the movement run, fault 25 is set. The teaching run must then be repeated.	Movement run	L4	● ○ ● ○ ○
9	When the door leaf arrives in the closed position at the end of the movement run, a beep (2 × 0.5 s) is sounded.			
10	The teaching run is finished and the display depends upon the peripheral device.	The main menu is displayed	The main menu is displayed	The mode of operation is displayed

20.4 Teaching a 2-leaf system

🛈 Teaching a 2-leaf system with service keys is not possible.

Step	Actions	ST220 display	DPS display	Service LED display (5 → 1)
1	▶ Select parameter "Start teaching" and press the ENTER key. ▶ Select 2-leaf system.	Start teaching		
1	▶ Start the respective teaching in DPS (NT) ▫ LE for 2-leaf system.		L2	
2	A beep sounds (1 x 0.5 s)			

ℹ In the case of a 2-leaf system, the teaching begins on the active leaf.

Step	Actions	ST220 display	DPS display	Service LED display (5 → 1)
3a	The drive is in the condition on delivery or has been set to the default setting. The following parameters are displayed in succession:			

	▶ Set system parameter for the present object.
	▫ Testing:
	  ▫ 24 V or energy-saving mode for GC 338
	  ▫ GND for GC 334, GC 342
		Type of installation
		Leaf width
		Door weight
		Close safety sensor
		Open safety sensor
		Testing
		Electric strike type
		Bolt message contact type
			OH
			F8
			t6
			S1
			S3
			tE
			to
			rr	

3b	If the teaching is carried out again, the parameter menu 3a is no longer displayed.			
4	▶ Open door leaf manually up to the desired open position.	Open manually	L1	
	The drive gives out an an acoustic warning signal in order to display max. drive-related open positions. The interruption of the warning signals is always shorter, extending to the max. open position.			
	🛈 ▫ If the beep continues to sound, the the door leaf is in the range of the max. open position (±3°). ▫ In this setting, there is a possibility that the drive does not work properly or is permanently damaged. ▶ Carry out the teaching run again to avoid this.			
5	▶ Move the door leaf by hand to the desired closed position. ▶ Push the input enter key. The display is acknowledged.	Close manually	L2	
6	If GC 338 is installed and a wall will be taught: ▶ Press the "Teach In" key on the sensor interface 2x and wait for 10 s. Else (if GC 338 is not installed), proceed with point 7.	Press "Teach in"	L3	
7	▶ Push the input enter key. The display is acknowledged.	Press "Teach in"	L3	
8	The movement run starts automatically after 2 s. ▫ Wall blanking and identifying inertia (the spring must be tensioned) are taught. In this run, sensors are not switched as "active". ▫ An obstacle is not identified. ▫ If a blockage is detected within the movement run, fault 25 is set. ▫ The teaching run must then be repeated.	Movement run	L4	
9	The active leaf opens up to the opening position automatically and remains in this position until the end of the teaching run for the passive leaf.			
10	The passive leaf is now taught in a similar manner to the 1-leaf system, see chapter 20.3 "Teaching a 1-leaf system".			
11	When the passive leaf arrives in the closed position at the end of the movement run, a beep (2 × 0.5 s) is sounded.			
12	After the teaching is finished , the active leaf closes automatically.			
13	The teaching run is finished and the display depends upon the peripheral device.	The main menu is displayed	The main menu is displayed	The mode of operation is displayed

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20.5   Forces and speeds

20.5.1   Forces

The forces set using "Opening force" (FO), "Opening retention force" (0F), "Closing retention force" (CF), "Force closed position" (FS) or "Closing force" (FC) always refer to N at the main closing edge.
- For the ST220, the values correspond directly to the main closing edge.
- For the DPS (with OFF), the values correspond to ×10 N at the main closing edge.

In addition, the "Obstacle" parameter (bh) also has an impact on the force ("Opening force" and "Closing force") during the movement. A higher value for the Obstacle parameter may be required, depending on the mass and the desired speed of the door. This has a direct impact on manual passage, see chapter 23 "Resilience to external influences or load due to wind pressure".

20.5.2   Speeds

The "Opening time" (ot), "Closing time" (ct) and "Manual closing time" (Sb) speeds are always calculated for a 90° opening angle.
This means:
- If the opening angle is taught at less than 90°, the movement time is faster than the set value.
- If the opening angle is taught at greater than 90°, the movement time for the complete angle of movement is higher than the set value.
  - The drive continues past the 90° to the opening position at this speed.

ℹ   Exception:
The "Closing latching action" (SC) value is not a real value. It does not correspond to a unit.

---

21   Disconnected mode

The doors can be manually opened even when in switched-off or disconnected mode. In the opening direction, the spring force acts as a brake. In the closing direction, the door must close from the open position by means of the spring force with a slower speed. The parameters can be used to set this closing speed in a de-energised condition.

ℹ   The braking power cannot be set when the fire alarm is triggered (error 07).

- DPS: Set 82 to 01 … 14.
- ST220: Set "movement parameters", "speeds", "braking power" to the desired braking power (01 … 14).
In an electrified state after completion of the teaching process the value for the parameters "Braking force" must be set as follows:
- For personal protection; the closing time must be complied with according to the table Minimum closing time 90° to 0° (chapter 25 Low-energy mode) when powered down.
- For a fire protection door; the closing time is between 6 s and 10 s.
Here, 01 is the lowest braking power (high speed) and 14 is the highest braking power (slow speed).
In an untaught condition (default setting) or after resetting the default setting, the braking power is set and works in both directions of movement. After initial teaching, the value is automatically set to 13 and is only effective in the closing direction.

22   Free swing function

▫ The parameter "free swing function" is used to determine how the drive reacts to external loading.
▫ When the parameter "free swing function" is set, the drive will allow you to manually push the door to open or close it even in automatic operation.
▫ The door movement brakes automatically before the door is opened completely by the adjusted backcheck.
▫ DPS: Set 02 (3rd menu) to 01.
▫ ST220:   Set "Movement parameters" and "Free swing function" to "Yes".

The parameter "free swing function" is not set for exposed exterior doors with high load due to wind pressure or doors exposed to overpressure, otherwise the drive cannot optimally respond to the external load, such as wind load.

23   Resilience to external influences or load due to wind pressure

In the event of exposed exterior doors with high load due to wind pressure or doors exposed to overpressure, the drive can be set using the "Opening force, FO", "Closing force, FC" and "Obstacle, bh" parameters to ensure an optimal response to external influences. The drive pushes against the external influences with the set force and for the set time ("Obstacle, bh" parameter).

The higher the set value, the more resilient the drive towards load due to wind pressure (for example), ensuring reliable opening and closing. However, manual passage is then no longer as convenient.

Manual passage of the door is easier with low set values. However, this also reduces the resilience to load due to wind pressure (for example).

24   Door closer operation

ℹ If frail people and/or children use the door and the risk analysis states that appropriate safety measures must be selected, the "Door closer mode" ($t5$) parameter must be set to 0 or 1 and the "Door closer torque" (dF) parameter must be set to 0.
This does **not** apply, if the door closing movement in the door closer mode is safeguarded with safety sensors.

The behaviour of the drive can be set so that its function corresponds to that of a mechanical door closer.
▸ In the service menu, set the "Door closer mode" ($t5$) parameter to the desired behaviour in the door closer mode.
The speed within the torque-controlled closing is set using the "Manual closing" parameter.

❗ ▸ For low-energy mode, see chapter 25 "Low-energy mode".
▸ In a 2-leaf swing door system, both drives must always be set to the same door closer mode.

Door closer operation function table ($t5$)

Door closer mode setting		Explanation
Manual ($t5$ = 00)	Door closing torque (dF) equal to 0 Nm	Speed-controlled closing after automatic and manual opening (SIS and obstruction detection active).
	Door closing torque (dF) 01 … 70 Nm	Speed-controlled closing after automatic opening (SIS and obstruction detection active). After activation by KI, KA, or KB and parameter adjustment (Rev. close auto", "active" the door reverses if blocked during closing. During manual opening and parameter adjustment "Rev. close manual" "active" the door reverses if blocked during closing. Torque-controlled closing after manual opening (SIS active or inactive). Drive closes the door at the set door closing torque. The drive pushes against an obstacle or reverses depending on the SIS parameter setting.
Automatic ($t5$ = 01)	Door closing torque (dF) equal to 0 Nm	Speed-controlled closing after automatic and manual opening (SIS and obstruction detection active).
	Door closing torque (dF) 01 … 70 Nm	Torque-controlled closing after automatic and manual opening (SIS active or inactive). The drive always closes the door at the set door closing torque. After activation by KI, KA, or KB and parameter adjustment (Rev. close auto", "active" the door reverses if blocked during closing. During manual opening and parameter adjustment "Rev. close manual" "active" the door reverses if blocked during closing.

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Compliance with low-energy function
The table shows compliance with low-energy function depending on door width and max. door closing torque.

Door width [m]	Max. door closing torque [Nm]
0.8	48
0.9	54
1.0	60
1.1	66
1.2	70
1.3	70
1.4	70
1.5	70
1.6	70

25 Low-energy mode

ℹ️
- Doors set to low-energy mode generally do not require any additional protective devices, if no particularly vulnerable persons are expected to use the door.
- With 2-leaf doors, both drives must have been set to low-energy mode.

The Powerturn drive can be operated as a low-energy drive if the following conditions are met:
- in a disconnected state:
  - The spring's retention force and opening force must be set to <67 N at the main closing edge.
  - The closing time must be set from 90° to 0° using the table below.
  ▶ Once the power is connected, set the value for the "Braking force" parameter so that the closing time is complied with in the disconnected state.
- in a electrified state:
  - Static force on the main closing edge is <67 N.
  ▶ The opening and closing force must be set to 60 using the "Opening force" and "Closing force" or FO and FC parameters.
  - The kinetic energy in the door leaf has to be limited to 1.6 J.
  ▶ The opening time and the closing time of the door must be set accordingly using the parameters "Opening time" or $o\,t$ and "Closing time", "Manual closing time" or $c\,t$ and 5δ in line with the table below.
  ▶ The hold-open times (or, oH, OP, HO, oS parameters) must be set to >5 s.

The following table shows the minimum opening time from 0° to 90° and the minimum closing time from 90° to 0°.

Door weight [kg]/ Leaf width [mm]	60	90	120	150	180	210	240	270	300	330	370	400	430	460	490	520	550	580	600
800	4	4	5	5	6	6	7	7	7	8	8	8	9	9	9	10	10	10	10
900	4	5	5	6	7	7	7	8	8	9	9	9	10	10	11	11	11	11	11
1000	4	5	6	7	7	8	8	9	9	10	10	10	11	11	12	12	–	–	–
1100	5	6	6	7	8	8	9	9	10	10	11	11	12	–	–	–	–	–	–
1200	5	6	7	8	8	8	10	10	11	11	12	–	–	–	–	–	–	–	–
1300	6	7	8	8	9	10	11	11	12	–	–	–	–	–	–	–	–	–	–
1400	6	7	8	9	10	11	11	12	–	–	–	–	–	–	–	–	–	–	–
1500	6	8	9	10	11	11	12	–	–	–	–	–	–	–	–	–	–	–	–
1600	7	8	9	10	11	12	–	–	–	–	–	–	–	–	–	–	–	–	–

Example:
Leaf weight: 90 kg, leaf width 1000 mm

The opening and closing time must be set to 5 s.

If the drive does not fulfil these requirements, it is in low-energy mode. The leaf movement must then be safeguarded using protective devices.

26 Servo mode

The GEZE Powerturn drive can be operated as a servo drive. It provides torque-controlled support to users during manual passing.
The servo drive is operated and set within the automatic operating mode.
The power support is divided into 2 functional areas:
- Servo support without fire alarm with additional torque
- Servo support with fire alarm with additional torque

26.1 Servo support without fire alarm with additional torque

The drive is power-supported during manual door opening so that the door can easily be used manually even under difficult environmental conditions, such as wind or against pressure in a stairwell. The power-assisted function is adjustable.
The door can be manually accelerated to the maximum speed of the low-energy function. Once this speed is reached, the drive brakes the door movement.
The following parameters must be set:
- Servo duration (Ad): Duration of the servo support from activation
- Additional servo torque (Ao): power-supported torque for easy manual opening
When activated via KI, KA, PE-KI, PE-KA, PE switch function, FK1, FK2, or KI+SIS, KA+SIS or with a Push & Go angle set, the drive opens the door with the set additional servo torque. The drive closes the door once again upon expiration of the set servo duration (Ad).
When activated via KB, the drive opens under speed regulation with the set values "Opening force", "Closing force", "Opening time" and "Closing time".

- The additional servo torque (Ao) must be set for the low energy mode.
- The SIO and SIS sensor strips are evaluated and react as set. During the night, the drive does not reverse if there is a blockade, but rather presses against the obstacle with the set force or torque.

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26.2 Servo support with fire alarm with additional torque

26.2.1 Servo function with fire alarm

ℹ️
- □ Building approval is required for each individual case when using the function on fire protection doors.
- □ The drive must be supplied by a safety power supply provided by the customer, or an uninterruptible power supply (UPS).
- □ Only manually operated activation devices (e.g. push buttons, contact mats) are permitted

▶ Connect smoke switches GC 151 or GC 161 to the drive.

Function

The servo support function with fire alarm and additional torque applies for fire protection doors which are installed in stairwells and which open towards the stairwell as emergency exit doors in the event of a fire alarm in the building (not locally triggered on the drive by the smoke switch control unit). The air overpressure in the stairwell to clear smoke from the escape routes makes it more difficult to manually open the door. With the set torque "Servo fire alarm", the drive supports every activation if a 24V signal "Fire alarm" is active on PE1 or PE2.

In the event of a fire in the direct vicinity of the door, the smoke switch installed in the door area triggers a shut-down of the drive motor and the electric strike.
In this case, the door closes by spring force.
The door can then only be opened manually, without force support by the drive.

ℹ️ The reset switch connection (connect RES to DCU801) must consequently be bypassed.
▶ Connect terminals 62 and 61 to the DCU801 with DCU800 terminals 2 and 1.
▶ Terminal 62 (RSZ 24V) with terminal 2 (24V), terminal 61 (RSZ GND) with terminal 1 (GND).

PE1 PE2

	2	24V
	51	PE1
oder	52	PE2
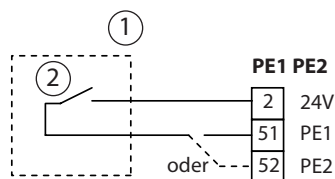
1 Customer building control centre
2 Floating "Fire alarm" output

⚠️ **WARNING**
Risk of injury due to high dynamic forces of the servo function with fire alarm!
▶ Make sure that no individuals are located near the door when opening in the event of a fire alarm.

When activated (KB), the drive opens the door at a set additional servo torque (Ro) plus the set opening torque "Servo fire alarm" (FA).
The "Servo fire alarm" opening torque (FA) is only available as long as the fire alarm signal (24V) is present at the configurable input (PE1 or PE2, set "Servo fire alarm" function).
Set the following parameters:
- □ Duration of the servo support (0–20 s):
  - □ with DPS: Set Ad to the desired time.
  - □ with ST220: Set "Movement parameters", "Servo duration" to the desired time.
- □ Amount of the desired additional opening torque (0-50 Nm):
  - □ with DPS: Set Ro to the desired additional torque.
  - □ with ST220: Set the "Movement parameter", "Additional servo torque" to the desired amount.
- □ Fire alarm function of the configurable PE1 or PE2:
  - □ with DPS: Set $E1$ or $E2$ to 22 (fire alarm).
  - □ with ST220: Set "Signals", "Input signals", "PE1" or "PE2", "PE1 function" or "PE2 function" to "Servo fire alarm".
- □ Additional "Servo fire alarm" opening torque (0-70 Nm) in case of fire:
  - □ with DPS: Set FA to the desired additional opening torque in case of fire.
  - □ with ST220: Set the "Movement parameter", "Servo fire alarm" to the desired amount.

⚠ ▫ The DO mode is disabled in the event of a fire alarm. The door closes upon expiration of the set servo duration (Ad).
▫ The additional servo torque (Ao) must be set for the low energy mode.
▫ Safety sensor "open" (SIO) is not evaluated in the event of an activated "Fire alarm" function. The drive pushes against an obstacle in the opening direction with the set additional servo torque.
▫ Safety sensor "close" (SIS) is not evaluated in the event of an activated "Fire alarm" function. The drive pushes against an obstacle in the opening direction with the set closing torque.
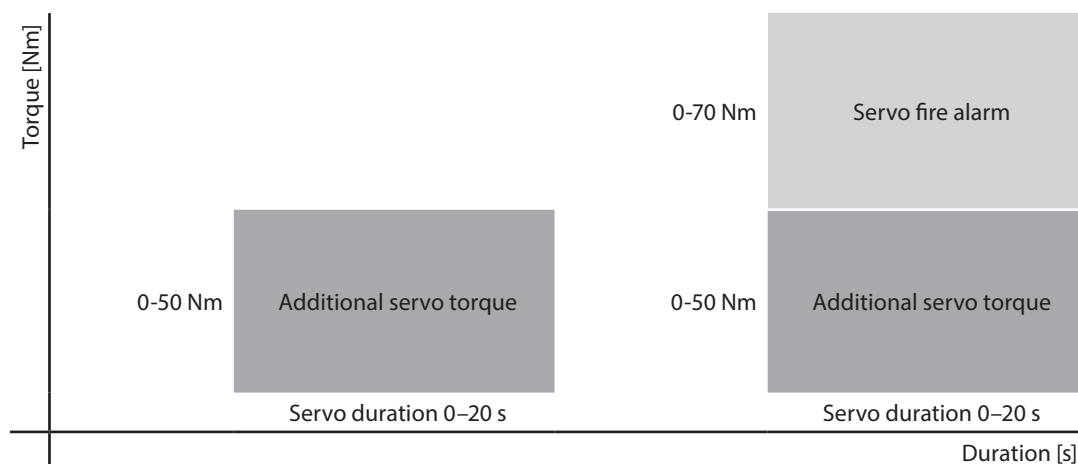
27   Service menu

27.1   Service terminal ST220

▫ Service terminal ST220, mat. no. 087261
▫ Commissioning of the drive is possible with the service terminal ST220, software version V2.1 or higher.
▫ Connection either via 5-pin plug connector RS485 or using a 3.5 mm TRS connector (with adapter cable mat. no. 157266)

27.1.1   Operation of ST220

Key	Function
▲	▫ Cursor upwards ▫ Increase number value ▫ Scroll upward (if key is pressed longer than 2 s)
▼	▫ Cursor downwards ▫ Decrease number value ▫ Scroll downward (if key is pressed longer than 2 s)
✕	▫ Cancel input Any input can be cancelled by pressing the x key. The input position then changes to the first menu position or one menu level back.
↵	▫ Select ▫ Update display ▫ Accept new value
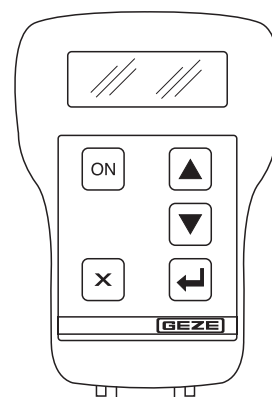
Entering values in service terminal ST220
▶ Change value with ▲ or ▼.
▶ Confirm using ↵.
▶ Abort using **x** if necessary.

Display immediately after connection

G E Z E **Service terminal** **2.1** **XXXXXYWWJJZZZZZZV**

Software version ST220 V2.1
Serial number ST220

27.1.2 Service mode ST220

▫ The change to service mode occurs when the service terminal is connected to DCU8.
▫ Service is possible in the LS, AU and DO modes of operation.
▫ In service mode, the door remains in operation in the current mode of operation (not when teaching is activated).
▫ The hardware version is detected above software version 1.8. In case of a disparity after "D1" or "F1", the drive switches to safety shutdown and sets the error "Incorrect HW/SW combination".

Display after connection to the door control

UFO-NT U1.8 F0 DCU800 Automatic closed

Drive type   Software version V U1.8, Hardware version F0
Basic board DCU200
Mode of operation
Door status

27.2 Connecting service terminal ST220

Service terminal ST220 is connected to connection board DU802 (3) using the bushing for the 3.5 mm TRS connector (1) or alternatively at the connector plug for DPS (2).
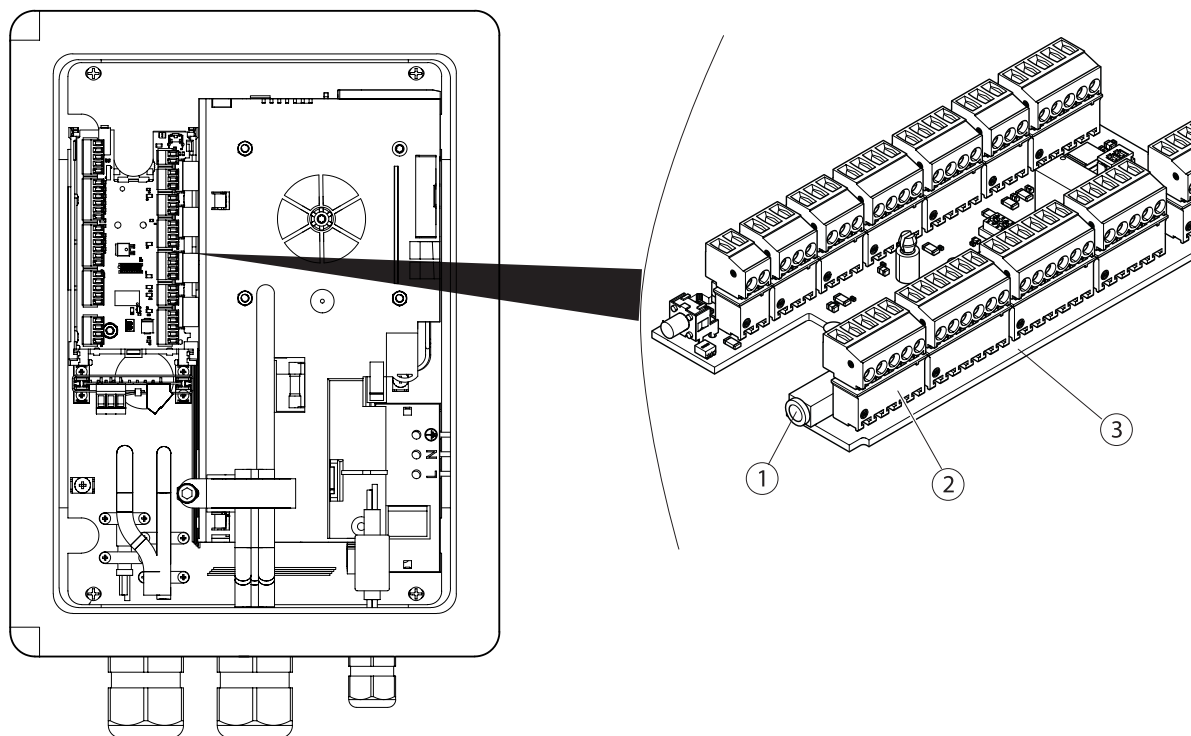
27.3   Service menu ST220

ℹ See chapter 27.5 "Service menu DPS" for explanations of the individual parameters.

27.3.1   Configuration of a 2-leaf drive

Selection of active leaf/passive leaf configuration	
`Start GF or SF?`	Selection of the parameter setting GF or SF
`Active leaf Para*`	Active leaf configuration setting
`Passive leaf Para`	Passive leaf configuration setting

27.3.2   Main menu

A 4-digit password must be entered before the main menu can be accessed:

```
Password

----
```

ℹ Only possible if the menu is password-protected.

Name	Reference
`Mode of operation`	see chapter 27.3.3
`Door parameters`	see chapter 27.3.4
`Movement parameters`	see chapter 27.3.5
`Signals`	see chapter 27.3.6
`Diagnosis`	see chapter 27.3.7
`Standard values`	see chapter 27.3.8
`Reset DCU8`	see chapter 27.3.9
`Start teaching`	see chapter 27.3.10
`Default setting`	see chapter 27.3.11
`Delete maintenance`	see chapter 27.3.12
`Password`	see chapter 27.3.13
`Language`	see chapter 27.3.14

27.3.3   Mode of operation

Name	Setting values		Explanation
`Mode of opera-tion *`	`Off`		Mode of operation setting
	`Night`		
	`Exit only`		
	`Automatic`		
	`Hold open`		
`Opening type`	**`1-leaf Open`**		Only open active leaf
	`2-leaf Open`		Open active and passive leaves when activated
`Open door`	`Open door`	Press the ▲ key.	Activate the door using ST220.

GEZE

27.3.4   Door parameters

Name	1 Sub-menu	2 Sub-menu	Explanation
Number of leaves	**1-leaf drive** 2-leaf active 2-leaf passive		The parameters are used to set the leaf on which the drive is installed.
Leaf width	Value: 11 x10 cm Min 06 x10 cm Max 11 x10 cm		
Door weight	Value: 100 kg. **200 kg.**		The door weight influences the safe speed.
Control type	DCU8 **DCU8 _ F** DCU8 _ I		Display only
Type of installation	**UFO-NT**		Underfloor drive
Drive type	**Spring power closes** Spring power opens		
Basic function	Auto mode	Auto mode	
Drive ser. no.	000000000000		Entry of the serial number

Maintenance	**by operating time**
	by cycles
		by operating time
		Value 12 months
		  min 0 months
		  max 99 months	

		after cycles
		Value 500,000
		  min 0
		  max 3000,000
			Cycle counter incremented:
			□ Each time the opening position is reached after automatic activation
			□ When the standstill position is reached after manual opening, if drive then wants to close.

Electric strike type	No electric strike **Fail-secure** Fail-safe Motor lock		Electric strike type, drive, has no closing force before opening.
	Working-close pressure Static-close pressure Motor-close pressure		Drive has closing force before opening.

Opening delay Day	Value: 0 s *0.1
	  min 0 s *0.1
	  Max. 90 s *0.1
			Opening delay day:
			Time before the drive opens the door.
			Only applies in the automatic, exit only operating modes.

Opening delay Night	Value: 0 s *0.1
	  min 0 s *0.1
	  Max. 90 s *0.1
			Opening delay night: Time before the drive opens the door Only applies in the night operating mode.

ECO mode	**not active** active		The 24 V supply to terminal 4 is switched off in the DO, NA and OFF modes of operation. Note: Activation via access control of KB in the event of NA, as well as closing the door when switching from DO to AU, requires a few seconds, as the system first has to boot up.

GEZE bus address	Value: **0** **value**
	  min 0 value
	  max 99 value
			For DCU103

27.3.5 Movement parameters

Name	1 Sub-menu	2 Sub-menu			Explanation
Speeds	Opening time	Value:	4	s	Opening time*) with automatic opening. Setting pursuant to the table in the Powerturn installation instructions.
		min	3	s	
		max.	25	s	
	Closing time	Value:	5	s	Closing time*) as per automatic/ manual opening. Setting pursuant to the table in the Powerturn installation instructions.
		min	5	s	
		max.	25	s	
	Manual closing time	Value:	15	s	Closing time after manual opening or after automatic opening with set automatic door closing mode. Setting pursuant to the table in the Powerturn installation instructions.
		min	5	s	
		max.	25	s	
	Latching action	Value:	0		Sets the speed at which the drive moves to the closed position shortly before closing. This is required e.g. for operation with a motor lock. Latching action also applies for manual passage.
		min	0		
		max.	50		
	Move towards open	**Off**			In the event of further opening attempts, the drive stops before the obstacle in the opening range
		Obstacle motor On			Drive presses against obstacle in the opening range.
		Obstacle motor Off			Drive presses against obstacle in the opening range and reduces motor current to 0 A.
	Free swing function	**no**			For doors without external loads, such as wind or pressure, the parameter "free swing function" can be activated in order to enable forced closing movement of the door.
		yes			

*)   the values for opening time and closing time refer to an opening angle of 90°.

Name	1 Sub-menu	2 Sub-menu			Explanation
	Braking force	Value:	**13**	Value	Braking force during closing via spring action following power failure or fire alarm.
		min	1		
		max.	14		
Forces	Opening force	Value:	**150**	N	Open static force at the main closing edge.
		min	10	N	
		max.	250	N	
	Closing force	Value:	**150**	N	Close static force at the main closing edge.
		min	10	N	
		max.	250	N	
	Obstacle	Value:	**3**	**0.1 s**	Time for which the drive pushes against an obstacle with the set static force.
		min 1		0.1 s	
		max 20		0.1 s	
	Opening retention force	Value:	**00**	N	Constant force on the main closing edge in open position.
		min	00	N	
		max	70	N	
	Close retention force	Value:	**00**	N	Constant force on the main closing edge in closed position.
		min	00	N	
		max	70	N	

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Name	1 Sub-menu	2 Sub-menu		Explanation
	Closed position force	Value: min max	**00** N 00 N 150 N	Force activates in the closed position after the end of the latching action. Manual passing is more difficult during the set time. The higher the set force, the longer the duration. Examples: at 10 N = 0.5 s, at 150 N = 2 s
	Door closing torque	Value: min max.	**0** Nm 0 Nm 70 Nm	Door closing torque time after manual opening. 0 … 40: $\overline{\text{EN 16005}}$ 41 … 70: $\overline{\text{EN 16005}}$ (crossed out) or safety sensors necessary.
Hold-open times	Push and Go	Value: min max.	**1** s 0 s 60 s	Hold-open time during passage with Push and Go.
	Manual	Value: min max.	**1** s 0 s 70 s no	Hold-open time for manual opening. "No" corresponds to an unlimited hold-open time, no automatic closing.
	2-leaf (Summer)	Value: min max.	**1** s 0 s 60 s	With activation KI, KA 2-leaf Opening (AU-So) Setting on GF control.
	1-leaf (Winter)	Value: min max.	**1** s 0 s 60 s	With activation KI, KA 1-leaf Drive (AU-Wi, AU-So) 2-leaf Opening (AU-So) Setting on GF control.
	Authorised contact	Value: min max.	**1** s 0 s 60 s	For activation by KB.
	Close delay GF	-> EN16005/DIN18650 min	0 s	$\overline{\text{EN 16005}}$ (crossed out) 0 s: both leaves close simultaneously. 01 … 15 s: The active leaf closes some time after the passive leaf.
		max	16 s	$\overline{\text{EN 16005}}$ 16 s: Active leaf does not close until after the passive leaf has closed completely.
	dyn extension	**no** yes		When activated, the passage frequency is taken into account in the hold-open time. The door does not close as fast when passage requirements are increased.
Reversing	Manual rev. closing	**not active** active		Reversing in the event of an obstacle within closing following manual opening.
	Auto rev. closing	not active **active**		Reversing in the event of an obstacle within closing following automatic opening.

Name	1 Sub-menu	2 Sub-menu		Explanation
Servo duration		Value: min max	0 s 0 s 20 s	Adjustable duration of the force support in servo mode
Additional servo torque		Value: min max	0 Nm 0 Nm 50 Nm	Adjustable torque for force-supported manual passing (time limited by "servo duration").
Servo fire alarm		Value: min max	0 Nm 0 Nm 70 Nm	Adjustable torque for power-support for fire alarm if 24 V applied to PE1 or PE2. Acts in addition to "additional servo torque". See servo function with fire alarm, chapter 26.2.1
Back check		Value: min max	50 % 10 % 80 %	Application of the back check, referenced to maximum opening range (manual opening).
Passive leaf start range		Value: min max	10 % 0 % 95 %	Start of the passive leaf at opening range of the active leaf, referenced to its maximum opening range. Observe DIN 18650 with 50 cm distance between both main closing edges.
Push and Go		Value: min max	0 % 0 % 20 %	0 %: No Push And Go 1–20 %: Push And Go Response range referenced to maximum opening range (=100)
Adj.opening angle		Value: min. max.	0 degrees -9 degrees 9 degrees	The value is only for fine adjustment. The value is taught during the teaching run and then corresponds to point 0. This allows it to be adjusted manually and, again, subsequently corresponds to point 0. The opening value can thus be manually adjusted step-by-step. Is not set in the default setting.
Reversing limit		Value:30 *0.1 degrees min. 0 *0.1 degrees max. 90 *0.1 degrees		Angle on the drive axle to fine-tune the tolerance in the closed position from which the drive attempts to close again. ▶ Set the value so that the door gap is as small as possible before the drive closes again.
Door closer mode		**Manual** Automatic		Manual: The door only closes with the set door closing torque after manual opening, otherwise speed-controlled. Automatic: The door always closes with the set door closing torque regardless of the type of activation.

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Name	1 Sub-menu	2 Sub-menu	Explanation
Manual intervention		Value: 0 value min. 0 value max. 10 value	Sets, within the automatic closing, the option to manually intervene in the door movement from the SIO page. When active, the door can then be manually reopened. 0: = off, 1: = easy, 10: = difficult

27.3.6 Signals

Name	1 Sub-menu	2 Sub-menu	3 Sub-menu	Explanation
Input sig-nals	SI1 - Terminal SIS	current state	SI1 - Terminal SIS Z-> not active K->NC F->SIS rev	
		SI1 contact type	not used **NC** Frequency	Parameter sets the use of the safety sensor "close" contact type.
		SIS function	**SIS rev**	If the safety sensor "close" triggers, the door reverses.
			SIS and KI	If the safety sensor "close" triggers, the drive reacts as with activation KI.
			SIS and KA	If the safety sensor "close" triggers, the drive reacts as for activation KA.
			SIS stop	If the safety sensor "close" triggers, the drive stops.
		SIS manual	not active **active**	Closing safety sensor active/inactive when closing after manual opening in door close mode.
	SI3 - terminal SIO	current state	SI3 - terminal SIO Z-> not active K->NC F-> SIO stop	
		SI3 Contact type	**not used** NC Frequency	Parameter sets the use of the safety sensor "open" contact type.
		SI3 function	**SIO stop**	If the safety sensor "open" triggers, only the drive on the detected door leaf stops.
			SIO stop SF GF	If the behaviour should be the same for active leaf and passive leaf, both drives must be set to SIO stop SF GF. If the safety sensor "open" triggers, both active leaf and passive leaf drive stop.
		SI3 Wall blank-ing	Value: 0 % min. 0 % max. 99 %	0 %: No wall blanking. The range of application for the wall blanking of the safety sensor "open" is taught during commissioning and can be corrected here. Maximum opening range of the door = 99%

Name	1 Sub-menu	2 Sub-menu	3 Sub-menu	Explanation
		SIO manual	not active **active**	Safety sensor "open" (SIO) not active during manual opening.
	Bolt contact type	current state	Bolt contact type Z-> not active K-> NO contact F-> Lock contact	
		Lock contact type	**NO contact** NC	Feedback e.g. of a motor lock
	KB	current state	KB Z-> not active K-> NO contact	
		KB contact type	not used **NO contact** NC	The input KB is active in the AU, LS and NA modes of operation. With 2-leaf assemblies the mechanical contact can be connected to the active leaf control or to the passive leaf control. Upon activation, the active leaf opens and, if switched on, the passive leaf opens. During activation, the output of the mechanical contact is closed (24 V applied at the KB input). Active in every mode of operation when the door is not closed.
	KI	current state	KI Z-> not active K-> NO contact A->*0.1s	
		KI contact type	not used **NO contact** NC	The input KI is active in AU and LS mode. With 2-leaf assemblies the contact sensor inside can be connected to the active leaf control or to the passive leaf control. Upon activation, the active leaf opens and, if switched on, the passive leaf opens. Active in every mode of operation when the door is not closed.
		KI delay	Value 0 s *0.1 min **0 s *0.1** Max. 90 s *0.1	Only active when the door is in a closed position.
	KA	current state	KA Z-> not active K-> NO contact A->*0.1s	
		KA contact type	not used **NO contact** NC	The KA input is only active in the AU mode of operation. With 2-leaf assemblies the contact sensor outside can be connected to the active leaf control or to the passive leaf control. Upon activation, the active leaf opens and, if switched on, the passive leaf opens. Active in every mode of operation when the door is not closed.
		KA delay	Value: 0 s *0.1 min **0 s *0.1** Max. 90 s *0.1	Only active when the door is in a closed position.
	NA	current state	NA Z-> not active K-> NO contact	

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Name	1 Sub-menu	2 Sub-menu	3 Sub-menu	Explanation
		NA contact type	**not used**	
			NO contact	
			NC	
	LS	current state	LS	
			Z-> not active	
			K-> NO contact	
		LS contact type	not used	
			NO contact	
			NC	
	AU	current state	AU	
			Z-> not active	
			K-> NO contact	
		AU contact type	not used	
			NO contact	
			NC	
	DO	current state	DO	
			Z-> not active	
			K-> NO contact	
		DO contact type	not used	
			NO contact	
			NC	
	OFF	current state	OFF	
			Z-> not active	
			K-> NO contact	
		OFF contact type	not used	
			NO contact	
			NC	
	PE1	current state	PE1	
			Z-> not active	
			K->not used	
			F->not used	
		PE1 function	**not used**	
			Switch over summer	For the connection of a push button for the summer function.
			Switch over winter	For the connection of a push button for the winter function Only for switching over from open 1-leaf to 2, not for actually opening the door.
			Sabotage NC	Permanently switched. If the contact is interrupted KB is not evaluated in the mode of operation "night-time". All other functions remain the same.
			Closed position GF NO	Closed position contact for the door leaf ▫ For 1-leaf door ▫ For 1-leaf door drive with manual passive leaf (door closer): Closed position contact for the active leaf ▫ For 2-leaf door: Active leaf contact to GF control; passive leaf contact to SF control
			P-KI activation NO	Additional contact sensors (P-KI, P-KA).
			P-KA activation NO	

Name	1 Sub-menu	2 Sub-menu	3 Sub-menu	Explanation
			`Switch function NO`	On activation, the output of the push button is closed. With 2-leaf assemblies the push button can be connected to the active leaf control or to the passive leaf control. If the push button is connected to the passive leaf control, both door leaves open and close on activation of the switch function. When the push button is pressed once, the drive opens the door. When the push button is pressed again, the drive closes the door.
			`Switch function OHZ NO`	On activation, the output of the push button is closed. With 2-leaf assemblies the push button can be connected to the active leaf control or to the passive leaf control. If the push button is connected to the passive leaf control, both door leaves open and close on activation of the switch function, even if the passive leaf control is switched off (bed opening). When the push button is pressed once, the drive opens the door and closes after the hold-open time has expired. When the push button is pressed again (within the hold-open time) the drive closes the door without waiting for the hold-open time to expire. If the push button is connected to the active leaf, the 1-leaf hold-open time is used for 1-leaf applications and for 2-leaf applications the 2-leaf hold-open time is used.
			`Reset switch      NO`	For restarting the drive. Function as reset.
			`Double push button NO`	Open 1× press = 1 leaf Open Open 2× press = 2 leaf Open
			`Stop NO      NO`	For connection of a stop push button
			`Stop NC      NC`	
			`Closed position SF`	Closed position contact for the passive leaf for 2-leaf door with manual passive leaf (door closer):
			`WC control unit`	Connection to the internal push button for the WC function.
			`Fire alarm`	If active, the door opening torque function with fire alarm torque is set for the duration.
			`1-leaf opening`	In 2-leaf systems, when the signal is active on the active leaf only 1 leaf is opened. Display only for 2-leaf drives.
	PE2	current state	`PE2 Z-> not active K->not used F->not used`	

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Name	1 Sub-menu	2 Sub-menu	3 Sub-menu	Explanation
		PE2 function	**not used**	
			MPS MPS	For connection of an MPS
			Switch over summer NO	For the connection of a push button for the summer function.
			Switch over winter NO	For the connection of a push button for the winter function
			Sabotage NC	see PE1
			Closing position GF NO	Closed position contact for the door leaf ▫ For 1-leaf door ▫ For 1-leaf door drive with manual passive leaf (door closer): Closed position contact for the active leaf ▫ For 2-leaf door: Active leaf contact to GF control; passive leaf contact to SF control
			Emergency lock.20KOhm NO	The input can be used to connect an emergency lock switch. When the emergency lock switch is activated, the contact is closed and 24 V is applied to the input. The door closes and locks. The contact sensors KI and KA are hidden. The safety sensors and the obstacle detection remain active. The door remains closed as long as the emergency lock signal is applied to the input.
			P-KI activation NO P-KA activation NO	Additional contact sensors (P-KI, P-KA). For connection of additional normally open contacts
			Switch function NO	see PE1
			Switch function OHZ NO	see PE1
			Stop 12 kOhm NO	For the connection of a stop push button with 12 kOhm terminating resistor
			Reset-switch NO	For restarting the drive function as reset.
			Double push button NO	Open 1× press = 1 leaf leaf. Open 2× press = 2 leaf leaf.
			Stop NO NO	For connection of a stop push button
			Stop NC NC	For connection of a stop push button
			Closed position SF	closed position contact for the passive leaf for 2-leaf door with manual passive leaf (door closer):
			Stop 20 kOhm	For the connection of a stop push button with 20 kOhm terminating resistor
			WC control unit	Connection to the internal push button for the WC function.
			not used	

Name	1 Sub-menu	2 Sub-menu	3 Sub-menu		Explanation
			Fire alarm		If active, the door opening torque function with fire alarm torque is set for the duration.
			1-leaf opening		In 2-leaf systems, when the signal is active on the active leaf only 1 leaf is opened. Display only for 2-leaf drives.
	PE3	current state	PE3 Z-> not active K->not used F->not used		
		PE3 function	**not used**		
			MPS	MPS	For connection of an MPS
			Switch over summer	NO	For the connection of a push button for the summer function.
			Switch over winter	NO	For the connection of a push button for the winter function
			Sabotage	NC	see PE1
			Closed position GF	NO	Closed position contact for the door leaf □ For 1-leaf door □ For 1-leaf door drive with manual passive leaf (door closer): Closed position contact for the active leaf □ For 2-leaf door: Active leaf contact to GF control; passive leaf contact to SF control
			Emergency lock.20KOhm	NO	see PE2
			P-KI activation	NO	Additional contact sensors (P-KI, P-KA). For connection of additional normally open contacts
			P-KA activation	NO	
			Switch function	NO	see PE1
			Switch function OHZ	NO	see PE1
			Stop 12 kOhm	NO	For the connection of a stop push button with 12 kOhm terminating resistor
			Reset-switch	NO	For restarting the drive Function as reset.
			Double push button	NO	Open 1× press = 1 leaf open Open 2× press = 2 leaf open
			Stop NO	NO	For connection of a stop push button
			Stop NC	NC	For connection of a stop push button
			Closing position SF	NO	Closed position contact for the passive leaf for 2-leaf door with manual passive leaf (door closer):
			Stop 20 kOhm	NO	For the connection of a stop push button with 20 kOhm terminating resistor
			WC control	NO	Connection to the internal push button for the WC function.
			Fire alarm	NO	If active, the door opening torque function with fire alarm torque is set for the duration.

GEZE

Name	1 Sub-menu	2 Sub-menu	3 Sub-menu	Explanation
			`1-leaf opening` NO	In 2-leaf systems, when the signal is active on the active leaf only 1 leaf is opened. Display only for 2-leaf drives.

	`Mode of opera-tion push button`	`current state`	`Mode of operation push button`
			 `Z-> not active`
			 `K-> NO contact`	

		`push button con-tact`	`Not used`
			
			 `NO contact`
				Mode of operation push button on the drive inactive.
				 Mode of operation push button on the drive active.

`Output sig-nals`	`PA1`	`current state`	`PA1`
			 `Z-> not active`
			 `F->not used`
			 `K-> NO contact`	

		`PA1 function`	`Gong`	If KA is triggered
			`Fault NO contact` `Fault NC`	The function is used for fault messages, e.g. to a customer building control centre. The contact closes or opens respectively if the control determines a fault.
			`Fault MPS`	The function is used to switch the fault LED at the MPS. The contact closes if the control determines a fault. When maintenance is due, the output is connected cyclically, and the fault LED on the MPS flashes.
			`Warning signal`	The function is used to cyclically switch on/off a signal transmitter while the door is opening or closing.
			`Electric strike`	For the connection of an additional electric strike

			`closed lock`
			 `closed`
			 `Not closed`
			 `Open`
			 `Off`
			 `Night`
			 `Exit only`
			 `Automatic`
			 `Hold open`
				The function is used to signal the door mode, e.g. to a building control centre

			`Light control`	The function is used to activate a light controlling device which, for example, switches on the entry illumination as soon as a contact sensor (KI, KA, KB, SIS+KI, SIS+KA) is activated or the door is opened manually.
			`Day/Night changeover`	The function is used to signal the day mode of operation to a customer building control centre. The output switches to GND if the mode of operation LS, AU 1-leaf, DO, or AU 2-leaf is set.
			`Maintenance due`	The function is used to signal the door mode, e.g. to a building control centre.
			`Holding magnet GF`	For setting the holding magnet (active leaf).

Name	1 Sub-menu	2 Sub-menu	3 Sub-menu	Explanation
			`Holding magnet SF`	For setting the holding magnet (passive leaf).
			`WC timeout`	To connect a lamp or a signal to signal when the 30-min. timer has expired for the WC function.

	`PA2`	`current state`	`PA2`
			`Z-> not active`
			`F->not used`
			`K-> NO contact`	

		`PA2 function`	**`not used`**	
			`Gong`	If KA is triggered
			`Fault NO contact`	see PA1
			`Fault NC`	
			`Fault MPS`	see PA1
			`Warning signal`	The function is used to cyclically switch a signal transmitter on/off while the door is opening or closing.
			`Electric strike`	For the connection of an additional electric strike
			`not used`	
			`closed lock`	The function is used to signal the door mode, e.g. to a building control centre
			`closed`	
			`Not closed`	
			`Open`	
			`Off`	
			`Night`	
			`Exit only`	
			`Automatic`	
			`Hold open`	
			`Light control`	see PA1
			`Day/Night changeover`	see PA1
			`not used`	
			`Maintenance due`	see PA1
			`Holding magnet GF`	For setting the holding magnet (active leaf).
			`Holding magnet SF`	For setting the holding magnet (passive leaf).
			`WC timeout`	To connect a lamp or a signal to signal when the 30-minute timer has expired for the WC function.

	`Testing SI`	`Current state *`	`Testing SI`
			`Z-> not active`
			`K->not used`
			`F->No testing`	

		`Testing SI`	**`No testing`**
			`Testing with 24 V`
			`Testing with GND`
			`Energy-saving mode`
				Testing the safety sensor. Depending on the type used, the testing must be set to 24V or GND here.

	`Operating mode LED`	`current state`	`Operating mode LED`
			`Z-> not active`
			`K->not used`
			`F->Mode of operation`	

		`LED function`	**`Mode of operation`** `inactive`	Disables the mode of operation LED on the drive.

GEZE

27.3.7 Diagnosis

Name	1 Sub-menu	2 Sub-menu		Explanation
Current values	Inputs	SI1	0 V	
		SI3	0 V	
		RM	0 V	
		KB	0 V	
		KI	0 V	
		KA	0 V	
		NA	0 V	
		LS	0 V	
		AU	0 V	
		DO	0 V	
		OFF	0 V	
		PE1	0 V	
		PE2	0.0 V	
		PE3	0.0 V	
		S1	0 V	
		S2	0 V	
		S3	0 V	
		FK1	0 V	
		FK2	0 V	
		Latching act	0 V	
	Outputs	PA1	closed	
		PA2	0 V	
		TOE	24 V	
		TEST	24 V	
		FAN	0 V	
		MAG	0 V	
	Internal values	current position		
			23 %	
		current motor power		
		Mot DCU800 0.0 A		
		Voltages		
		Mains on		
		24 V internal xy.z V		
		24 V external xy.z V		
		Temperatures		
		DCU800 41 degrees C		
		M DCU800 45 degrees C		
		Statistics		
		Cycles total 0		
		Cycles Manu 0		
		Hours 1352		
		Hours Ser 112		
		Joch cycles 235		
current conditions	Inputs	SI1	off	
		SI3	off	
		RM	off	
		KB	off	
		KI	off	
		KA	off	
		NA	off	
		LS	off	
		AU	off	
		DO	off	
		OFF	off	
		PE1	off	
		PE2	off	
		PE3	off	
		S1	off	
		S2	off	
		S3	off	
		FK1	off	
		FK2	off	
		Latching act	off	

Name	1 Sub-menu	2 Sub-menu		Explanation
	Outputs	PA1	off	
		PA2	off	
		TOE	off	
		TEST	off	
		FAN	off	
		MAG	off	
Fault memory	Current faults	Error 1	Cause 1	
			Cause 2	
		Error 2	Cause 1	
			Cause 2	
		Error 3	Cause 1	
			Cause 2	
		Error 4	Cause 1	
			Cause 2	
	Old faults	Error 1	Cause 1	
			Cause 2	
		Error 2	Cause 1	
			Cause 2	
	Delete current errors	**no**		
		yes		
	Clear old faults	**no**		
		yes		
Configuration	Drive	Ser. no. 000000000000		
		OEW left ?xyz		
		Mot.Resist: 1770mOhm		
		Curr.M.Res: 0mOhm		
	Control	Type Powerturn		
		Date of err. CW xy xzyx		
		SVN 1280:161711 (Example)		

27.3.8 Standard values

Name	1 Sub-menu	2 Sub-menu	Explanation
Standard values	**no**		Values are set to standard settings Position, WIO wall blanking, and opening angle are retained. Fault memory is deleted. A teaching run and initialisation run are not necessary.
	yes		

27.3.9 Reset DCU8

Name	1 Sub-menu	2 Sub-menu	Explanation
Reset DCU8	**no**		Fault memory is deleted. Position and opening angle are not deleted. The processor restarts. A teaching run is not necessary, an initialisation run is necessary.
	yes		

27.3.10 Start teaching

Name	1 Sub-menu	2 Sub-menu	Explanation
Start teaching	**1-leaf Teaching**		Starts the teaching procedure. For the procedure, see chapter 20.2.
	2-leaf Teaching		

27.3.11 Default setting

Name	1 Sub-menu	2 Sub-menu	Explanation
Default setting	**no** yes		Reset all the values to the default settings. The state is the same as the state after the default setting. Values to standard setting, fault memory, position and opening angle are deleted. A teaching run and initialisation run are necessary.

27.3.12 Delete maintenance

Name	1 Sub-menu	2 Sub-menu	Explanation
Delete maintenance	**no** yes		Clear the maintenance values.

27.3.13 Password

Name	1 Sub-menu	2 Sub-menu	Explanation
Change PW S1	Password old 0000 Password new ----		for access to the service menu with ST220.
DPS disabling	Password old 00 Password new --		Is used to enable the DPS instead of enabling via a key switch. Disabling reoccurs automatically after 1 minute without key actuation. The first digit specifies how often the key ▲ has to be activated and the second digit how often the key ▼ has to be activated to release operation of the DPS.
Block parameters	**no** yes		

Entering the password in control unit ST220
▶ Change digit with ▲ or ▼.
▶ Confirm digit and change to next position with ↵.
▶ Abort with **x**.
Display of the current position by the asterisk under it.
▶ After completing entry, press ↵ to accept the password.

❶ ▫ After 1 minute without a button being pressed or when the service menu is accessed again, the password is required before changes to the operating mode setting or to the parameter settings can be carried out.
▫ The password has to be set separately for the active leaf and passive leaf drive. The active leaf drive and the passive leaf drive can have different passwords.
▫ When the password for ST220 is set, access to the service menu via DPS is no longer possible.
▫ If the password has been forgotten, a special flash file with which the password on the control can be reset to 00 has to be requested from GEZE.
▫ The password cannot be deleted by installing a new software version

27.3.14 Language

Name	Setting values		Explanation
Language		**German**	
		English	
		French	
		Swedish	

27.4 DPS (DPS)

The DPS can be used for commissioning and servicing, mat. no. 151524:
▫ for changing the drive parameters
▫ for "teaching" the drive
▫ for diagnosis

Mode of operation		Service mode	
nA	Night	×	Cancel and return to first menu level
LS	Exit only	↵	Confirm
Au	Automatic	▲	Scroll up Increase value
do	Hold open	▼	Scroll down Reduce value
oF	OFF		
▲ + ▼ simultaneously	Change 2-leaf operation 1-leaf operation	–	–
Service button (1) + ↵ simultaneously	Change mode of operation / service mode		
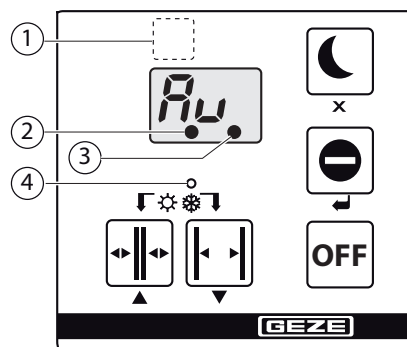
1   Service button
2   Position unknown
3   Illuminated for maintenance
4   Lights up at 1-leaf operation

27.5 Service menu DPS

▫ Changing to the service mode is possible in the NA, LS, AU and DO modes of operation.
▫ If no key is pressed in service mode for a period of 2 minutes, the mode of operation automatically changes.
▫ In service mode, the door remains in operation in the current mode of operation (not when teaching is activated).

1 Menu

DPS	Parameter	Setting values	Explanation
ot	Opening time	03...**04**... 06... 25	in s; Opening time[*] with automatic opening. Setting pursuant to the table in the Powerturn installation instructions.
ct	Closing time	**05** … 06 … 25	in s;
FB	Leaf width	06…**11**	in mm × 100; Influences the forces at the main closing edge.
tG	Door weight	01, **02**	in kg × 100 ; Influences the safe speed.
Pu	Push and Go	**00** 01 … 20	0 %: No Push And Go 1–20 %: Push And Go Response range referenced to maximum opening range (=100)
SC	Latching action closing	**00** … 10 12 … 20 25 … 50	Sets the speed at which the drive moves to the closed position shortly before closing. This is required e.g. for operation with a motor lock. Latching action also applies for manual passage.

DPS	Parameter	Setting values		Explanation
ͦ ͬ	Hold-open times 1-leaf (winter)	00 … **01** … 10 12 … 20 25 … 50 60		in s; with 2-leaf drive for winter operation. With activation KI, KA
F1	SIS function	**01**	**SIS rev**	If the safety sensor "close" triggers, the door reverses.
		02	SIS and KI	If the safety sensor "close" triggers, the drive reacts as with activation KI.
		03	SIS and KA	If the safety sensor "close" triggers, the drive reacts as for activation KA.
		04	SIS and Stop	If the safety sensor "close" triggers, the drive stops.
F3	SI3 function	**05**	**SIO Stop**	If the safety sensor "open" triggers, only the drive on the detected door leaf stops.
		06	SIO Stop SF-GF	If the behaviour should be the same for active leaf and passive leaf, both drives must be set to SIO stop SF GF. If the safety sensor "open" triggers, both active leaf and passive leaf drive stop.
ͭE	Testing SI	**00** 01 02 03	**No Testing** Testing with 24 V Testing with GND Energy-saving mode	Testing the safety sensor. Depending on the type used, the testing must be set to 24 V or GND here. To save energy, the Powerturn can automatically switch the GC 338 to standby mode if it is not required. See chapter 5.1.

*) the values for opening time and closing time refer to an opening angle of 90°.

DPS	Parameter	Setting values		Explanation
ͭͦ	Electric strike type	00	No electric strike	
		01	**Working current**	Drive does not have closing force (pressure in the closed position) before opening.
		02	Fail-safe	
		03	Motor lock	
		04	Working pressure	Drive has closing force (pressure in the closed position) before opening.
		05	Static-close pressure	
		06	Motor-close pressure	
5ͭ	Control type	80	DCU8	Only display, no setting option
		81	DCU8-F	
		82	DCU8-Invers	
ͦH	Type of installation	**07**	**UFO-NT**	**UFA Underfloor operator**
Rͭ	Drive type	**00** 01	**Spring force closes** Spring force opens	
ͭ5	Door closer mode	**00** 01	**Manual** Automatic	Manual: The door only closes with the set door closing torque after manual opening, otherwise speed-controlled. Automatic: The door always closes with the set door closing torque regardless of the type of activation.
HE	Manual intervention	**00** 01 …10	**not active** active	Sets, within the automatic closing, the option to manually intervene in the door movement from the SIO page. When active, the door can then be manually reopened.
EP	Software version	e.g. SL, 10, 00 for DCU8 V1.0		or SF, 10, 01 for DCU8-F V1.0.1 for tailor-made solutions; Scroll forwards using "arrow downwards", menu has 3 levels 1 Level ➜ SL; 2 Level ➜ 10; 3 Level ➜ 00 (00 -> standard / 01 ➜ for customised solutions …).
ͫE				next level

2 Menu

DPS	Parameter	Setting values	Explanation
OP	Push And Go hold-open times	00 **01** … 10 12 … 20 25 … 50 60	in s; Hold-open time during passage with Push and Go.
HO	Manual hold-open times	00 **01** … 10 12 … 20 25 … 50 60 no	in s; Hold-open time for manual opening; Values corresponding to the time. No automatic closing.
oH	Hold-open time double leaf (Summer)	00 **01** … 10 12 … 20 24 … 50 60	in s; With 2-leaf drive for summer operation. (AU-So). Setting on GF control. Valid for KI, KA
dL	Opening delay Day	**00** … 90	in s x 0.1; Opening delay day: Time before the drive opens the door. Only applies in the automatic and exit only operating modes.
dn	Opening delay Night	**00** … 90	in s x 0.1; Opening delay night: Time before the drive opens the door. Only applies in the night operating mode.
SU	Close delay GF	00	~~EN 16005~~ Simultaneous closing of both leaves
		01 …10 … 15s	~~EN 16005~~ The active leaf closes some time after the passive leaf.
		99	EN 16005 Active leaf does not close until after the passive leaf has closed completely. This value must be set in order to fulfil EN 16005. The value does not correspond to the time
FL	Passive leaf start range	00 … **10** … 95	in % Start of the passive leaf at opening range of the active leaf, referenced to its maximum opening range.
Ad	Servo duration	**00** … 20	in s; Adjustable duration of the force support in servo mode
Ao	Additional servo torque	**00** … 50	in Nm; Adjustable torque for force-supported manual passing (time limited by "servo duration").
FA	Servo fire alarm	**00** … 70	in Nm; Adjustable torque for power-support for fire alarm if 24 V applied to PE1 or PE2. Acts in addition to "additional servo torque". See servo function with fire alarm, chapter 26.2.1
dF	Door closing torque	**00,** 16 … 40	in Nm; Door closing torque time after manual opening. EN 16005 0 … 40: ———
		41 … 70	~~EN 16005~~ 41 … 70: ⨉ Or sensor strips required.
AB	Wall blanking	**00** … **01** … 99	00: No wall blanking. The range of application for the wall blanking of the safety sensor "open" is taught during commissioning and can be corrected here. Maximum opening range of the door = 99
LE	Start teaching ->1 leaf Teaching	Start/terminate	Teaching a 1-leaf system For the procedure, see chapter 20.2.

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DPS	Parameter	Setting values	Explanation
L2	Start teaching ->2 leaf Teaching	Start/terminate	Teaching a 2-leaf system For the procedure, see chapter 20.2.
Er	Current faults	CE	Displays the current errors in the fault memory. Delete with CE.
oE	Delete old errors	CE	Displays the old errors in the fault memory. Delete with CE.
CP	Default setting	cP	Reset all the values to the default settings. The state is the same as after the default setting. Values to standard setting, fault memory, position and opening angle are deleted. A teaching run and initialisation run are necessary.
LP	Standard values	dP	All values are set to the standard setting after acknowledgement. Position and opening angle are retained. Fault memory is deleted. A teaching run and initialisation run are not necessary.
PP	Reset DCU8	IP	After acknowledgement the display jumps to 88. Fault memory is deleted. Position and opening angle are not deleted. The processor restarts. A teaching run is not necessary, an initialisation run is necessary.

3 Menu

DPS	Parameter	Setting values		Explanation
o5	Hold-open time KB	00 … **01** … 10 12 … 20 25 … 50 60		in s; Hold-open time after activation with KB.
od	dyn extension	**00** 01	**no** yes	When activated, the passage frequency is taken into account in the hold-open time. The door does not close as fast when passage requirements are increased.
S6	Manual closing time	05 … 06 … **15** … 25		in s; Closing time after manual opening or after automatic opening with set automatic door closing mode. Setting pursuant to the table in the Powerturn installation instructions.
dA	Back check	10 … 12 … 20 … 25 … **50** … 60 … 80		Application of the back check, referenced to maximum opening range (manual opening).
E0	Adj.opening angle	–9 … 00 … 09		in degrees; The value is only for fine adjustment. The value is taught during the teaching run and then corresponds to point 0. This allows it to be adjusted manually and, again, subsequently corresponds to point 0. The opening value can thus be manually adjusted step-by-step. Is not set in the default setting.
CL	Reversing limit	00 … **30** … 90		In 0.1 degrees of the drive axle. Angle on the drive axle to fine-tune the tolerance in the closed position from which the drive attempts to close again. ▶ Set the value so that the door gap is as small as possible before the drive closes again.
O2	Free swing function	**00** 01	**no** yes	For doors without external loads such as wind or pressure, the parameter "free swing function" can be activated in order to enable optimum passage of the door.
OL	Move towards open	**00**	**no**	In the event of further opening attempts, the drive stops before the obstacle in the opening range
		01	Obstacle Motor on	Drive pushes against the obstacle and turns motor off.
		02	Obstacle Motor off	Drive pushes against the obstacle and leaves motor on.
EF	Number of leaves	**01** 02 03	**1-leaf Drive** 2-leaf active 2-leaf Passive	Parameter sets which of the door leaves the drive is installed on.
S1	SI1 contact type	00 **02** 04	Not used **NC** Frequency	Parameter sets the use of the safety sensor "close" contact type.

DPS	Parameter	Setting values		Explanation
53	SI3 Contact type	00	Not used	Parameter sets the use of the safety sensor "open" contact type.
		02	**NC**	
		04	Frequency	
C6	KB contact type	00	Not used	The input KB is active in the AU, LS and NA modes of operation. With 2-leaf assemblies the mechanical contact can be connected to the active leaf control or to the passive leaf control. Upon activation, the active leaf opens and, if switched on, the passive leaf. During activation, the output of the mechanical contact is closed (24 V applied at the KB input). Active in every mode of operation when the door is not closed.
		01	**NO contact**	
		02	NC	
C1	KI contact type	00	Not used	The input KI is active in AU and LS mode. With 2-leaf assemblies the contact sensor inside can be connected to the active leaf control or to the passive leaf control. Upon activation, the active leaf opens and, if switched on, the passive leaf opens. Active in every mode of operation when the door is not closed.
		01	**NO contact**	
		02	NC	
IA	KI delay	**00** … 90		in s x 0.1; only active when the door is in a closed position. Can be adjusted in steps of 0.1.
Co	KA contact type	00	Not used	The KA input is only active in the AU mode of operation. With 2-leaf assemblies the contact sensor outside can be connected to the active leaf control or to the passive leaf control. Upon activation, the active leaf opens and, if switched on, the passive leaf opens. Active in every mode of operation when the door is not closed.
		01	**NO contact**	
		02	NC	
AA	KA delay	**00** … 90		in s × 0.1; only active when the door is in a closed position. Can be adjusted in steps of 0.1.
E1	PE1 function	**00**	**Not used**	
		03	Switch over summer NO	For the connection of a push button for the summer function.
		04	Switch over winter NO	For the connection of a push button for the winter function Only for switching over from open 1-leaf to 2, not for actually opening the door.
		05	Sabotage NC	Permanently switched. If the contact is interrupted KB is not evaluated in the mode of operation "night-time". All other functions remain the same.
		06	Closed position GF NO	Closed position contact for the door leaf ▫ For 1-leaf Door ▫ For 1-leaf Door drive with manual passive leaf (door closer): Closed position contact for the active leaf ▫ For 2-leaf door: Active leaf contact to GF control; passive leaf contact to SF control
		08	P-KI activation NO	Additional contact sensors (P-KI, P-KA). For connection of additional normally open contacts
		09	P-KA activation NO	
		10	Switch function NO	On activation, the output of the push button is closed. With 2-leaf assemblies the push button can be connected to the active leaf control or to the passive leaf control. If the push button is connected to the passive leaf control, both door leaves open and close on activation of the switch function, even if the passive leaf control is switched off (bed opening). When the push button is pressed once, the drive opens the door. When the push button is pressed again, the drive closes the door.

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DPS	Parameter	Setting values		Explanation
		11	Switch function OHZ NO	On activation, the output of the push button is closed. With 2-leaf assemblies the push button can be connected to the active leaf control or to the passive leaf control. If the push button is connected to the passive leaf control, both door leaves open and close on activation of the switch function, even if the passive leaf control is switched off (bed opening). When the push button is pressed once, the drive opens the door and closes after the hold-open time has expired. When the push button is pressed again (within the hold-open time) the drive closes the door without waiting for the hold-open time to expire. If the push button is connected to the active leaf, the 1-leaf hold-open time is used for 1-leaf applications and for 2-leaf applications the 2-leaf hold-open time is used.
		13	Reset switch NO	For restarting the drive. For the function, see chapter 27.3.9.
		14	Double push button NO	Open 1× press = 1 leaf open Open 2× press = 2 leaf open
		15	Stop NO NO	For connection of a stop push button
		16	Stop NC NC	
		19	Closed position SF	closed position contact for the passive leaf for 1-leaf door with manual passive leaf (door closer):
		21	WC control	Connection of the internal button for the WC function.
		22	Fire alarm NO	If active, the door opening torque function with fire alarm torque is set for the duration.
		23	1-leaf opening	In 2-leaf systems, when the signal is active on the active leaf only 1 leaf is opened.
E2	Configurable input 2	**00**	**Not used**	
E3	Configurable input 3	01	MPS	For connection of a mechanical programme switch
		03	Switch over summer NO	For the connection of a push button for the summer function.
		04	Switch over winter NO	For the connection of a push button for the winter function Only for switching over from open 1-leaf to 2, not for actually opening the door.
		05	Sabotage NC	Permanently switched. If the contact is interrupted KB is not evaluated in the mode of operation "night-time". All other functions remain the same.
		06	Closed position GF NO	Closed position contact for the door leaf ▫ For 1-leaf door ▫ For 1-leaf door drive with manual passive leaf (door closer): Closed position contact for the active leaf ▫ For 2-leaf door: Active leaf contact to GF control; passive leaf contact to SF control
		07	Emergency lock.20 KOhm NO	The input can be used to connect an emergency lock switch. When the emergency lock switch is activated, the contact is closed and 24 V are applied to the input. The door closes and locks. The contact sensors KI and KA are hidden. The sensor strips and obstacle detection remain active. The door remains closed as long as the emergency lock signal is applied to the input.
		08	P-KI activation NO	Additional contact sensors (P-KI, P-KA).
		09	P-KA activation NO	For connection of additional normally open contacts
		10	Switch function NO	see PE1
		11	Switch function OHZ NO	see PE1

DPS	Parameter	Setting values			Explanation
		12	Stop 12 kOhm	NO	For the connection of a stop push button with 12 kOhm termi-nating resistor
		13	Reset switch	NO	For restarting the drive. Function as reset.
		14	Double push button	NO	Open 1× press = 1 leaf open Open 2× press = 2 leaf open
		15	Stop NO	NO	For connection of a stop push button
		16	Stop NC	NC	
		19	Closed position SF		closed position contact for the passive leaf for 2-leaf door with manual passive leaf (door closer):
		20	Stop 20 kOhm	NO	For the connection of a stop push button with 20 kOhm termi-nating resistor
		21	WC control		Connection of the internal button for the WC function.
		22	Fire alarm		If active, the door opening torque function with fire alarm torque is set for the duration.
		23	1-leaf opening		In 2-leaf systems, when the signal is active on the active leaf only 1 leaf is opened.
A1	Configurable output 1	**00**	**Not used**		
A2	Configurable output 2	01	Gong		If KA is triggered
		02	Fault NO contact		The function is used for fault messages, e.g. to a customer build-ing control centre. The contact closes or opens respectively if the control determines a fault.
		03	Fault NC		
		04	Fault MPS		The function is used to switch the fault LED at the MPS. The con-tact closes if the control determines a fault. When maintenance is due, the output is connected cyclically, and the fault LED on the MPS flashes.
		05	Warning signal		The function is used to cyclically switch on/off a signal transmit-ter while the door is opening or closing.
		06	Electric strike		For the connection of an additional electric strike
		08	closed lock		The function is used to signal the door mode, e.g. to a building control centre.
		09	Closed		
		10	Not closed		
		11	Open		
		12	Off		
		13	Night		
		14	Exit only		
		15	Automatic		
		16	Hold open		
		17	Light control		The function is used to activate a light controlling device which, for example, switches on the entry illumination as soon as a con-tact sensor (KI, KA, KB, SIS+KI, SIS+KA) is activated or the door is opened manually.
		18	Day/Night changeover		The function is used to signal the day mode of operation to a customer building control centre. The output switches to GND if the mode of operation LS, AU 1-leaf, DO, or AU 2-leaf is set.
		19	Not used		
		20	Maintenance due		The function is used to signal the door mode, e.g. to a building control centre.
		21	holding magnet GF		To set the active leaf holding magnet.
		22	holding magnet SF		To set the passive leaf holding magnet.
		24	WC timeout		To connect a lamp or a signal to signal when the 30-minute timer has expired for the WC function.
F0	Opening force	01 … **15** … 25			×10 N; Open static force at the main closing edge.

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DPS	Parameter	Setting values		Explanation
FC	Closing force	01 … **15** … 25		×10 N; Close static force at the main closing edge.
bh	Obstacle	01 … **03** … 20		×0.1 s; Time for which the drive pushes against an obstacle with the set static force.
OF	Opening retention force	**00** … 01 … 07		x10 N; Constant force on the main closing edge in open position.
CF	Close retention force	**00** … 01 … 07		x10 N; Constant force on the main closing edge in closed position.
FS	Closed position force	**00** … 01 … 15		x10 N, force activates in the closed position after the end of the latching action. Manual passing is more difficult during the set time. The higher the set force, the longer the duration. Examples: at 10 N = 0.5 s, at 150 N = 2 s
bA	Basic function	**01**	**Yes**	The drive is in automatic mode.
rr	Lock contact type	**01**	**NO contact**	Feedback e.g. of a motor lock
		02	NC	
SH	SIO manual	**00**	**not active**	SIO not active during manual opening
		01	active	SIO active during manual opening
SS	SIS manual	00	not active	SIS not active during closing after manual opening
		01	**active**	SIS active during closing after manual opening
PH	Manual rev. closing	**00**	**not active**	Reversing in the event of an obstacle within closing following manual opening: not active.
		01	active	Reversing in the event of an obstacle within closing following manual opening: active.
PA	Auto rev. closing	00	not active	Reversing in the event of an obstacle within closing following automatic opening: not active.
		01	**active**	Reversing in the event of an obstacle within closing following automatic opening: active.
Sb	ECO mode	**00**	**not active**	ECO mode for the control. The 24 V supply to terminal 4 is switched off in the DO and NA modes of operation. Note: Activation via access control of KB in the event of NA, as well as closing the door when switching from DO to AU, requires a few seconds, as the system first has to boot up.
		01	active	
82	Braking force	01 … **13** … 14		Braking force in de-energised mode; e.g. to stop the door from slamming shut. To set it such that the door closes in 5 s, see chapter 21.
SP	Language	**00**	**German**	Language of the drive
		01	English	
		02	French	
		03	Swedish	
CS	Delete maintenance	cS		Reset maintenance counter, switch off service LED. After acknowledgement the display switches between CS ➔ cS
86	Operating duration	Co CH Ho So	Total no. of cycles/100 Number of cycles manual/100 Operating hours/4 Operating hours/4 to next service	Display 6-digits each. Scroll downwards with "downward arrow"

28 Fault messages ST220 and DPS

28.5.1 Fault display

On the DPS
- For troubleshooting and fault description see also list "Faults and actions - control DCU2" list.
- Currently queued fault messages are displayed on the DPS in cycles (10 s). In addition, they are also entered in the *Er* and *oE* fault memories.
- The mode of operation is displayed for 5 s, the fault message for 2 s.
- Individual faults are indicated by the fault ID.
- If the faults are collective faults, only the main fault number is indicated e.g. 22.

On the control unit ST220
- Faults are shown using the text form of the fault names.
  Fault example: SIS SF
- In addition, the following states are displayed:
  - not taught: Winter LED flashes continuously (1 s on, 3 s off)
  - Maintenance: Winter LED flashes continuously (0.5 s on, 0.5 s off)

28.5.2 Fault messages

Fault no.	Message on the DPS	Message on the ST220	Fault description
01	01	24 V missing	Control faulty, short circuit at 24 V.
03	03	230 V error	Power failure, 230 V collective fault.
		230 V low voltage	230 V low voltage.
		230 V high voltage	230 V high voltage.
07	07	Active leaf fire alarm	Smoke detector active.
			Jumper not inserted.
10	10	Active leaf rotary transducer	Collective fault rotary transducer.
		Encoder model	Rotary transducer displays fault.
		Edge counter	Error in identifying the rotary transducer edges.
		Position check	Rotary transducer position error.
		Direction error	Rotational direction of motor or rotary transducer is incorrect.
11	11	Motor 1 short	Motor current too large.
12	12	Motor 1	Motor defective.
13	13	SIS defective	Safety sensor "close active leaf, collective fault".
		Permanent activation	Safety sensor "close active leaf" activated for more than 4 min.
		Testing	Error in testing safety sensor "close active leaf".
14	14	MPS	Inconsistent state at the PS inputs or wire break MPS.
15	15	Comm. DPS	No communication between control – DPS.
16	16	Lock	Electric strike does not block.
17	17	Unlocking	Electric strike does not trigger.
19	19	SIS SF fault	Safety sensor "close passive leaf, collective fault".
		Permanent activation	Safety sensor "close passive leaf" activated for more than 4 min.
		Testing	Error in testing safety sensor "close passive leaf".
22	22	Mechanical fault GF	A mechanical fault has occurred at the active leaf; collective fault.
		Rotate angle	A cam skip has been detected.
		Defective magnetic valve	The solenoid valve of the energy store is defective.

Fault no.	Message on the DPS	Message on the ST220	Fault description
23	*23*	Mechanical fault SF	A mechanical fault has occurred at the passive leaf; collective fault.
		Rotate angle	A cam skip has been detected.
		Defective magnetic valve	The solenoid valve of the energy store is defective.
25	*25*	Teaching run fault GF	Teaching run collective fault, teaching run invalid.
		Latching action switch	Teaching run invalid, e.g. incorrectly set latching action switch.
		Obstacle teach close	Obstacle of the door leaf during the teaching procedure.
		Teaching time- out	Time-out expired within 60 s of teaching.
26	*26*	Teaching run fault SF	Passive leaf teaching run collective fault, teaching run invalid.
		Latching action switch	Teaching run invalid, e.g. incorrectly set latching action switch.
		Obstacle teach close	Obstacle of the door leaf during the teaching procedure.
		Teaching time- out	Time-out expired within 60 s of teaching.
28	*28*	Relay DCU800	Motor relay defective.
29	*29*	SIO SF fault	Safety sensor "open passive leaf, collective fault".
		Permanent activation	Safety sensor "open passive leaf" activated for more than 4 min.
		Testing	Error in testing safety sensor "open passive leaf".
32	*32*	Sabotage	Sabotage active.
35	*35*	Permanent activation PE1	Expected configuration as MPS, Sabotage, Stop, emergency lock.
36	*36*	Permanent activation PE2	Expected configuration as MPS, Sabotage, Stop, emergency lock.
37	*37*	Permanent activation KI	Movement detector defective or activation > 4 min.
38	*38*	Permanent activation PE3	Expected configuration as MPS, Sabotage, Stop, emergency lock.
39	*39*	Permanent activation KA	Activation longer than 4 min.
40	*40*	Permanent activation KB	Activation longer than 4 min.
41	*41*	SIO 1	Safety sensor "open active leaf, collective fault".
		Permanent activation	Safety sensor "open active leaf" activated for more than 4 min.
		Testing	Error in testing safety sensor "open active leaf".
42	*42*	Emergency lock	
		Activation active	If the function is active via PE.
		Push button defective	If the push button for the function was recognised as defective.
44	*44*	Input stop	Stop is active.
45	*45*	Motor hot	Motor or control temperature higher than 95 °C.
46	*46*	Motor T-sensor	Motor temperature sensor defective.
47	*47*	Control T-sensor	Control temperature sensor is defective.
48	*48*	Overtemp	Motor or control temperature higher than 105 °C.
51	*51*	24 V missing SF	Control defective passive leaf.
53	*53*	230 V error SF	230 V passive leaf collective fault.
		230 V low voltage	230 V low voltage SF.
		230 V high voltage	230 V high voltage SF.
54	*54*	Comm. DPS NT	Communication error DPS NT.
57	*57*	Fire alarm SF	Smoke detector active passive leaf.
60	*60*	Ctrl. DCU800	Internal control fault, collective fault for active leaf.

Fault no.	Message on the DPS	Message on the ST220	Fault description
		EEPROM value	–
		EEPROM comparison	–
		Current measurement error	Error in motor current measurement.
		EEPROM time-out	–
		Quartz tolerance	–
		RAM test	–
		ROM CRC test	–
		VCC test	–
		Quartz failure	–
		Motor resistance	–
		Comm. M1-M2	–
		Wrong HW/SW combination	–
63	*63*	SW version	Active leaf and passive leaf have different software versions.
65	*65*	Comm. SF-GF	No communication active leaf/passive leaf control.
66	*66*	Locking SF	Electric strike not blocking (passive leaf).
67	*67*	Unlocking SF	Electric strike not triggering (passive leaf).
70	*70*	Ctrl. DCU800 SF	Internal control fault, collective fault such as fault 60 For detail, log into SF.
71	*71*	Motor SF short	Motor current too large.
72	*72*	Motor SF	Motor defective.
73	*73*	Permanent activation	Collective fault permanent activation SF inputs.
74	*74*	Rotary transducer SF	Rotary transducer signals faulty.
75	*75*	DCU800 hot	Passive leaf drive, motor or control temperature higher than 95 °C.
76	*76*	Sensor motor SF	Motor temperature sensor defective.
77	*77*	Passive leaf T-sensor	Control temperature sensor is defective.
78	*78*	Overtemp SF	Motor or control temperature higher than 105 °C.
79	*79*	Passive leaf relay	Motor relay defective, passive leaf.
	X.X	Position	Leaf position unknown (dot on left display).
	X X.	Maintenance	Maintenance requirement (number of cycles, operating hours, dot on right display).
	8.8	DPS	No communication with control - DPS
	--	DPS	Operation at programme switch.
	oo	DPS	Release operation at programme switch.
	00	DPS	Change in mode of operation: not possible using programme switch (internal PS not set to 0, or MPS is configured).
	r5	Reset	On starting the teaching procedure: Reset switch not pressed or 24 V RSZ missing.

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