Liberda Antriebstechnik GmbH

AG_V4 Premium DC

Classic line drive system with electric-lock for Sliding Doors

Translation of the original Operation Manual

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Firmware Version: from 16

Content

1 Warnings

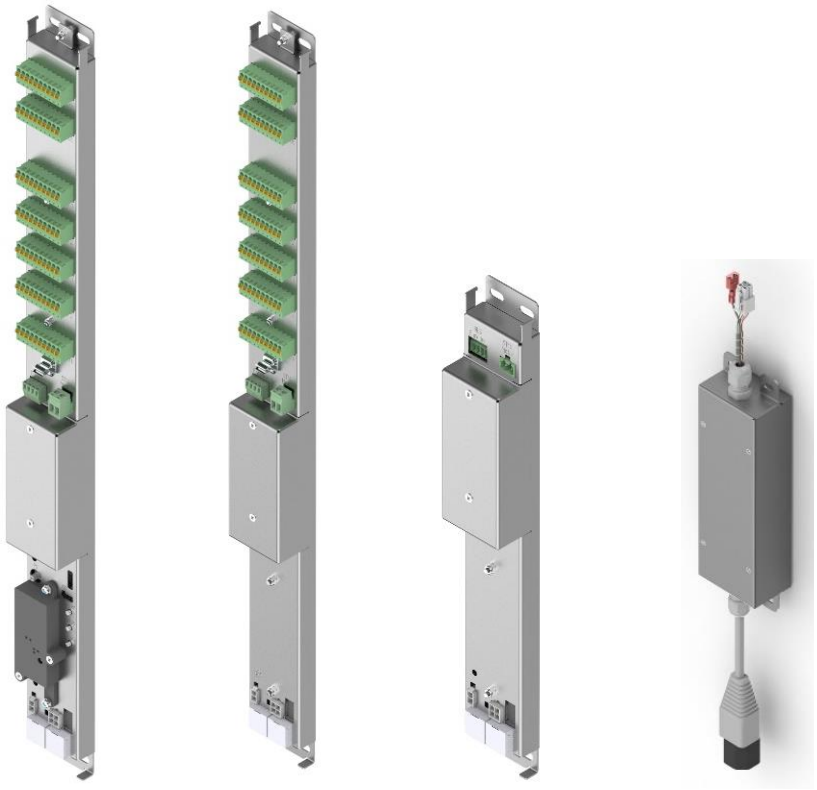
- Installation and maintenance must only be carried out by qualified personnel.
- A Schuko socket must be provided next to the power supply.
- If the drive is connected directly, an all-pole main switch must be provided for this connection.
- Work on the control unit may only be carried out when it is unplugged or when the all-pole main switch is switched off.
- Never connect 230 V to 24 V control inputs or outputs!
- Pay attention to the polarity!
- Protect the unit from moisture and direct sunlight.
- Local safety regulations applicable to this system must be observed.
- Inputs from different controls must not be connected in parallel, especially for control devices. A separate potential-free contact must be provided for each control input!
- The control unit should be installed in a dedicated circuit and protected with a 2 A fuse.
- Liberda Antriebstechnik assumes no responsibility for damage or injury to persons or property resulting from improper use or incorrect installation.
- Please read this instruction manual very carefully before installing and programming your control unit.

2 Specifications

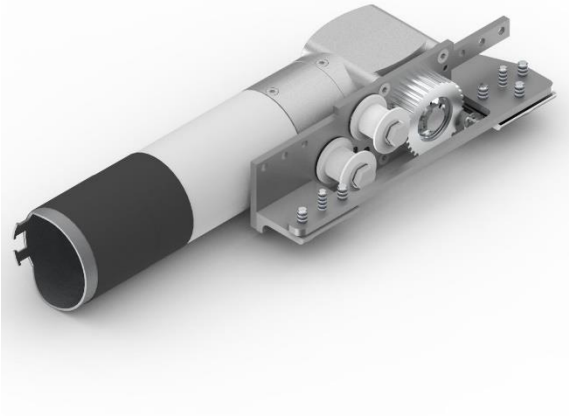
INPUT/power supply	Voltage	80-264 VAC
	Frequency	47-63 Hz
	Rated power	201,6 W
OUTPUT	Voltage	24 VDC ±5%
	Current	8,4 A
MOTOR DRIVER	Motortyp	DC
	Maximum traction force	Size1 : 110 N Size2 : 400 N Size3 : 680 N
	Operating temperature	0 °C - +60 °C
	CIP classification	IP 20
SAFETY	Safety standards	EN 60335-1 EN 60335-2-103
EMC	Emission and immunity	EN 61000-3-3 EN 61000-3-2 EN 55014-2 EN 55014-1
	Wifi-module	EN 300 328:2015
SIZE OF CONTROL UNIT	Width	46 mm
	Height	35,5 mm
	Length	Master 569 mm Slave 330 mm
WEIGHT	Master control unit	841 g
WEIGHT	Slave control unit	535,5 g
WEIGHT	DC-Gearmotor	Size 1 : 1905 g Size 2 : 4505 g Size 3 : 4545 g
WEIGHT	Electric lock	1797 g
WEIGHT	Power supply	730 g

3 System overview

3.1 Control units and power supply overview



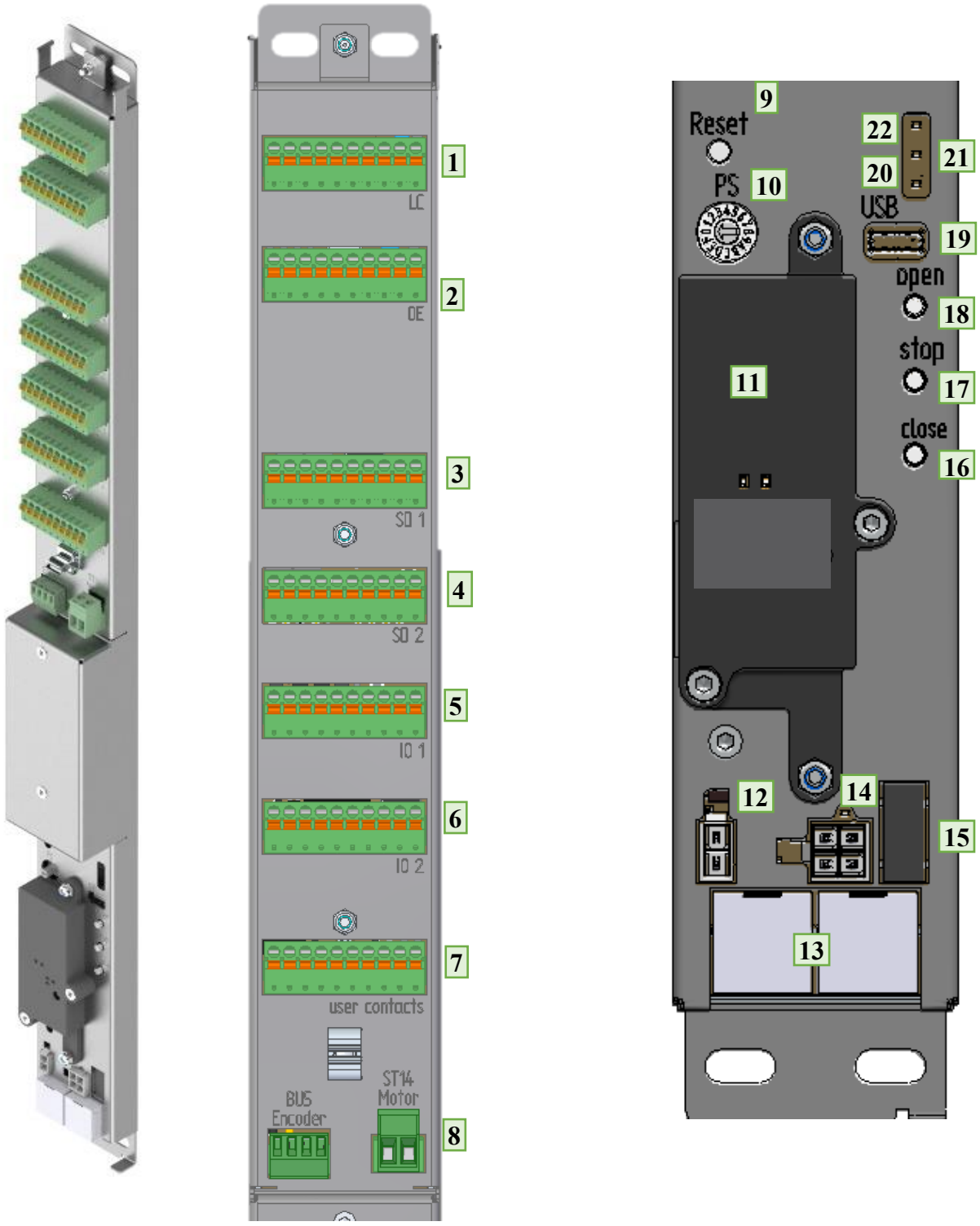
3.2 DC-Gearmotor



Motor with a horizontal tooth belt

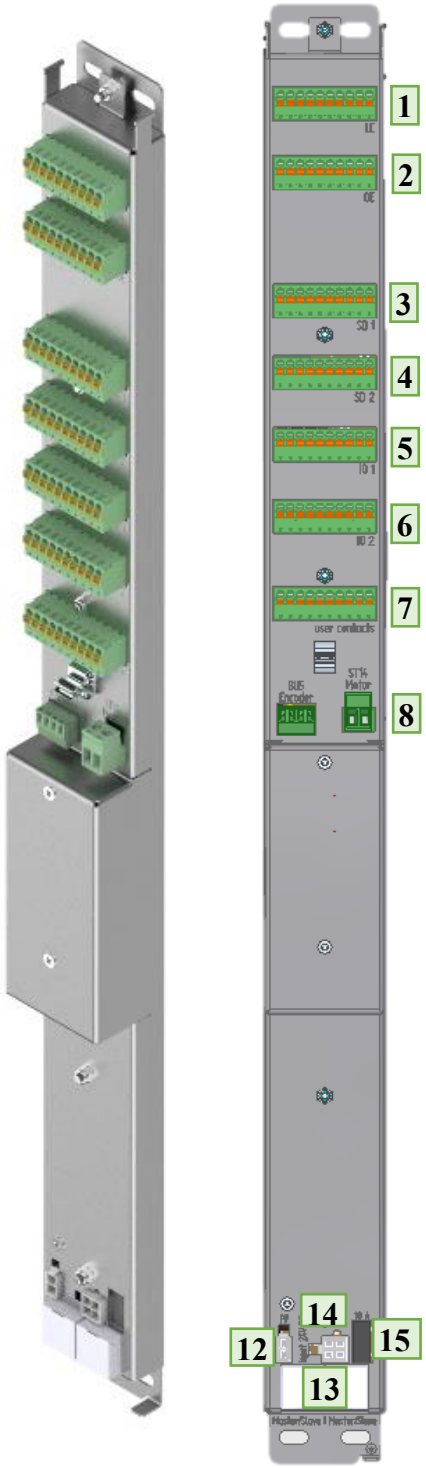
Motor with a vertical tooth belt

3.3 Master control unit

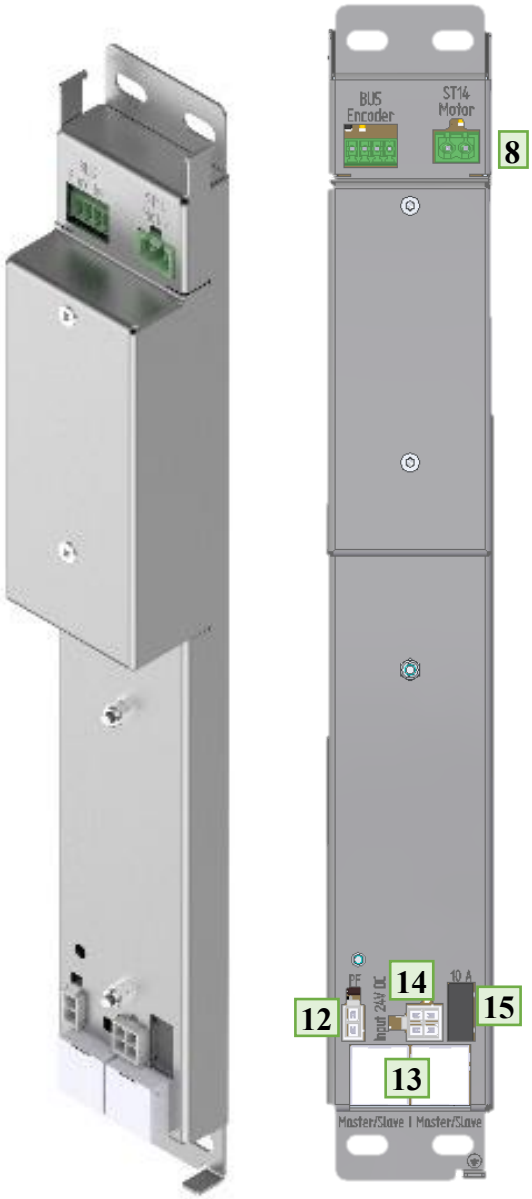


3.4 Slave control unit

Slave with IO-Board



Slave without IO-Board



Number	Name	Comment
1	LC connector ONLY for Liberda Lock	Locking connection for Liberda locking. biMR Pinout: 1: +24VDC 2: Output (control of the electric lock)) 3: NOT IN USE 4: NOT IN USE 5: Input 1 (door unlocked input) 6: Input 2 (door closed input) 7: X1 (+24V COM, pin is connected with IO connector X1 pin) 8: X2 (door closed external, pin is connected with IO connector X2 pin) 9: X3 (lock closed external, pin is connected with IO connector X3 pin) 10: GND
2	OE connector ONLY for Liberda operating element	Connector for Liberda operating element. Pinout: 1: +24VDC 2: Output 1 3: Output 2 4: Output 3 5: Output 4 6: Input 1 7: Input 2 8: Input 3 9: Input 4 10: GND
3	SD1 connection Interface for safety devices Main Closing Edge	**Only activated when required for the sash combination or an order** Plug for safety device on the main closing edge 1: +24 VDC 2: GND 3: +24 VDC 4: Input Open 5: +24 VDC 6: Input Main Closing Edge 7: Test Output +24 VDC 8: Test Output GND 9: +24 VDC 10: GND
4	SD2 connection Interface for safety devices secondary closing edge	**Only activated when required for the sash combination or an order** Plug for safety device on the secondary closing edge 1: +24 VDC 2: GND 3: +24 VDC 4: Input Open 5: +24 VDC 6: Input secondary closing edge 7: Testinput +24 VDC 8: Testoutput GND 9: +24 VDC 10: GND
5	IO1 connection Interface for various inputs and outputs	**Only activated when required for the sash combination or an order** Plug with universal inputs and outputs. Pinout: 1: +24VDC 2: Input 1 3: Input 2 4: Input 3 5: Input 4 6: REL C (Common for REL1-, REL2- and REL3-Output) 7: REL Out 1 8: REL Out 2 9: REL Out 3

		10: GND
6	IO2 connection Interface for various inputs and outputs	**Only activated when required for the sash combination or an order** Plug with universal inputs and outputs. Pinout: 1: +24VDC 2: Input 1 3: Input 2 4: Input 3 5: Input 4 6: REL C (Common for REL1-, REL2- and REL3-Output) 7: REL Out 1 8: REL Out 2 9: REL Out 3 10: GND
7	UC plug Interface for external command devices (SmartHome, etc.)	Plug with universal inputs and outputs. Pinout: 1: +24VDC 2: Input 1 (Direction button 1-Input) 3: Input 2 (Middle button-Input) 4: Input 3 (Direction button 1-Close-Input) 5: REL C (Common for REL1- and REL2-Output) 6: REL Out 1 7: REL Out 2 8: X1 (COM, pin is connected to the pin of the LC connector X1) 9: X2 (Door closed output, pin is connected to the pin of the LC connector X2) 10: X3 Door lock output, pin is connected to the pin of LC connector X3
8	MOTOR	Connection ST14 and BU5 for DC Motor
9	RESET-Button	Resetting the drive
10	Rotary Switch	Not in use
11	Wifi-Modul	Wifi-module from Liberda. Access via the app: LiberdApp
12	Feedback UPS	Connection option for feedback from the Liberda UPS
13	Master/Slave	2x connection option for the connection cable between master and slave
14	Power supply	Connection Liberda switched-mode power supply
15	Fuse holder	Overcurrent protection 10A
16	Direction button 1	Operating element: (top button) - OPEN
17	Middle button	Operating element: (middle button) - STOP
18	Direction button 2	Operating element: (bottom button) - CLOSE
19	USB-Connector	Communication connection for parameterisation
20	LED-yellow	Display of the locking status
21	LED-green	Status display of the control unit
22	LED-red	Status display of the control unit

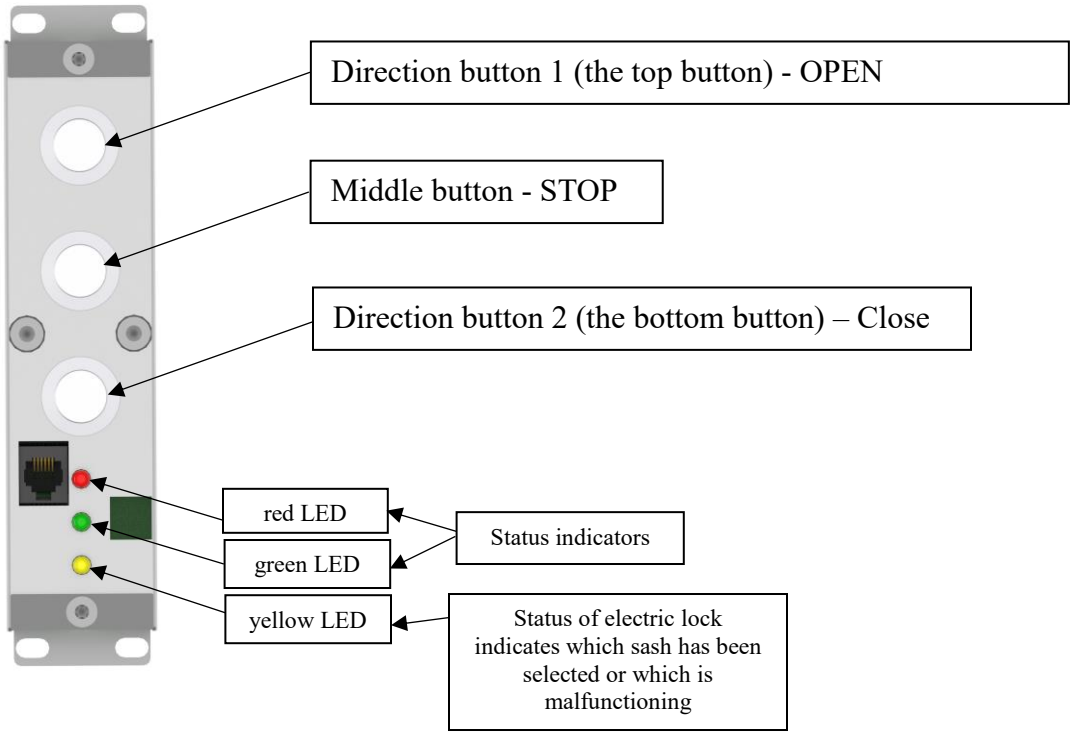
4 Function description

The Liberda compact safety drive is a microprocessor-controlled door drive designed for sliding doors. It features electronic obstacle detection with an automatic stop and reverse function. Traction and door speed are regulated. All parameters, including the ventilation gap, and ventilation duration, can be set on the device.
During start-up of the compact safety drive, the force required to open and close a door is measured in both directions and logged separately. The drive automatically adjusts to compensate for contamination and ensure high reliability.

4.1 Status display of control unit and lock

The locking and programme states are indicated by LEDs for the duration of 5 seconds.

5 Overview operating element



6 Behaviour during normal operation

There are two different operating modes:

Dead-man's mode (without self-propulsion)

The door only moves while a button is pressed. Once the button is released, the door stops immediately.

Impulse mode (self-propelled mode)

One button press is sufficient to initiate movement of the door from one end position to the other.

Obstacle detection

If the door encounters an obstacle, the obstacle detection function is activated.

- When the door is closing and an obstacle is detected, the door stops immediately and reverses a short distance.
- When the door is opening and an obstacle is detected, the door also stops immediately and reverses a short distance.
- The door will never reverse into the last 30 cm of the end positions.

The minimum safety requirements defined by the EN 16005 are achieved through speed and power reduction. The door speed depends on the weight of the sash and is defined by the manufacturer. It cannot be changed by the user.

EN 16005 stipulates that any contact between the user and the door is unacceptable. Additional protective measures are required when the door is used by elderly or weaker individuals, people with disabilities, or children.
In impulse mode, the door speed is set according to the door's weight, in accordance with EN 16005, and the door is classified as a 'low-energy door'.

Additional safety devices

If an additional safety device (e.g. a light barrier or presence detector) is activated at the main closing edge, the door will **not** close. After the safety device is triggered, the door will reverse during the closing process.
The presence of a safety device at the main closing edge has **no influence** on the opening movement.

If an additional secondary closing edge safety device (e.g. a presence detector) is activated, the door does not open.
The secondary edge safety device has no influence on the closing movement.
Before opening from the closed position, the drive unit checks whether the locking contact has been interrupted.

As long as this contact remains interrupted, the drive unit will attempt to close the door further in order to release the locking device. If the door is blocked by an obstacle, the drive will attempt to open the door again after a short delay. This action has **no influence** on a moving door.
Malfunctions are displayed via LED codes depending on the type of malfunction and can be checked in the malfunction table (see section 14.2, 'Malfunction codes', on page 56).

7 Additional functions in normal operation

- The signal LEDs turn off after five seconds if the operating element is inactive (to avoid visual interference).
  After pressing the Stop button, the indicators switch on for five seconds to show the current operating status.

- The door moves in the respective direction according to the functions described for each combination.
  If the door is in the closed position, the green LED flashes once.
  If the door is in the open position, the green LED flashes three times.
  If the door is neither in the closed nor in the open position, the green LED flashes 5 times.

- The door opens fully when the OPEN button is pressed.
  If not, please check the Parameter List for further information.
- The door can be stopped in the following way:
  - Press the STOP button (the middle button on the operating element).
  - Press one of the three buttons one second after starting.

- It is possible to lock or unlock the buttons of the operating element.
  - Press the middle button 10 times within 5 seconds.

- The doors move to the ventilation position when the OPEN button is pressed twice for less than two seconds, or to the walk-trough opening position when the OPEN button is pressed three times for less than two seconds.

  The timeout for button combinations is fixed at two seconds unless otherwise noted.

8 Behaviour after a power failure

Once the power supply has been restored following a power failure, the red LED will flash and the green LED will be off. This status remains displayed (the indication does not switch off after 5 seconds). The control unit enters dead man mode, i.e. the door only moves while a button (either "Open" or "Close") is pressed.

8.1 Behaviour with Liberda biMR GTS electric lock

If a door with a Liberda biMR electric lock is closed before the power is resorted, the door will automatically switch to normal operation.
Requirement: the electric-lock (“yellow LED”) must be correctly adjusted and engage properly.

If a door with a Liberda biMR electric lock is open when the power is resorted, close the door completely by pressing and holding the corresponding button. Take care not to move at full speed in the final position.
The control unit will automatically switch to normal operation as soon as the door is fully closed and the lock engages. (The green LED will flash constantly and the yellow LED will light up.)

8.2 Behaviour without Liberda biMR GTS electric lock

If the door is open, close it completely by pressing and holding the relevant button. Take care not to move at full speed when reaching the final position.
If the door is closed:

- Press and hold the middle button.
- Press the bottom button once and then release the middle button.
  This restores the closed state. If everything is correct, the red LED will switch off and the green LED will flash constantly, indicating that the door is in normal operating mode.
- In the case of a two-button control, it is possible to restore the closed state by pressing the bottom button five times within five seconds. If everything is correct, the red LED will switch off and the green LED will flash constantly, indicating that the door is in normal operating mode.

8.3 Make a new start-up

If none of the above options work properly, please make a new start-up (see 'Start-up', page 18).

9 Wifi-module

Every master control unit is delivered together with a Wifi-module (number 11 on the overview of the master control 3.3 unit on page 8).
Detailed information can be found in the additional manual, 'Wifi-module'.

10 Installation

Only qualified personnel may carry out the mechanical and electrical installation according to the instructions.

10.1 Power supply

The drive is supplied with a standard plug connection. The customer must provide a Schuko socket below the control unit.
The connection must be protected with a minimum of 2A and a maximum of 6A. Differential protection must be provided in the vicinity of damp areas.

10.2 Connection to the power supply

If the control is placed in the door frame, a finished cable is included in the delivery. Otherwise, refer to the detailed installation instructions for cabling.

10.3 Cable data

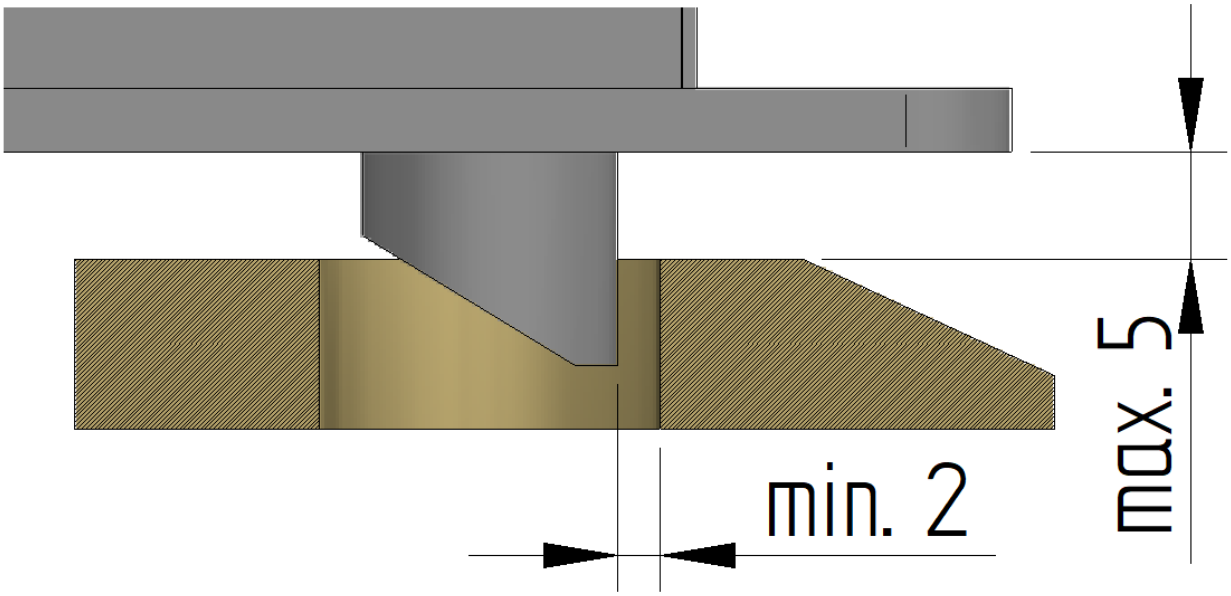
To avoid problems with the cable connections, only the following cable types are recommended:

- Hybrid cable (replaces the motor cable and impulse transmitter):
  - 2 x 2.0 mm² + 2 x (2 x 0.5 mm²)
    (special cable, available from Liberda Antriebstechnik GmbH)
- Motor cable (pins 1 and 2 of the DC motor connector ST14):
  - 2 x 1.0 mm² shielded
  - over 15 m: 2 x 1.5 mm² shielded
  - over 30 m 2 x 2.0 mm² shielded
  - over 50 m – on demand
- Impulse transmitter cable (pins +, A and B - of the DC motor connector BU5):
  - 4 x 0.35 mm² shielded
  - over 30 m 4 x 0.5 mm²
  - over 50m – on demand
- Electric lock cable (LC connector):
  - 10 x 0.5 mm² unshielded
  - over 50 m – on demand
- Power supply cable (control – power supply):
  - 5 x 0.75 mm² unshielded max. 2m
- Connection cable (control panel – control):
  - patch cable max. 50 m (at least Cat6)
- Synchronisation cable:
  - patch cable max. 50 m (at least Cat6)

Note: For flexibility reasons, stranded wires must be used!

10.4Locking with the Liberda biMR GTS electric lock

When the door is fully closed and the green LED is flashing regulary, the door is locked and the yellow LED lights up. The door can be unlocked and opened by pressing the OPEN button (the yellow LED will go out).
The following drawings show how to position the electric lock above the locking counterpart, also called the locking chock, on the sash.



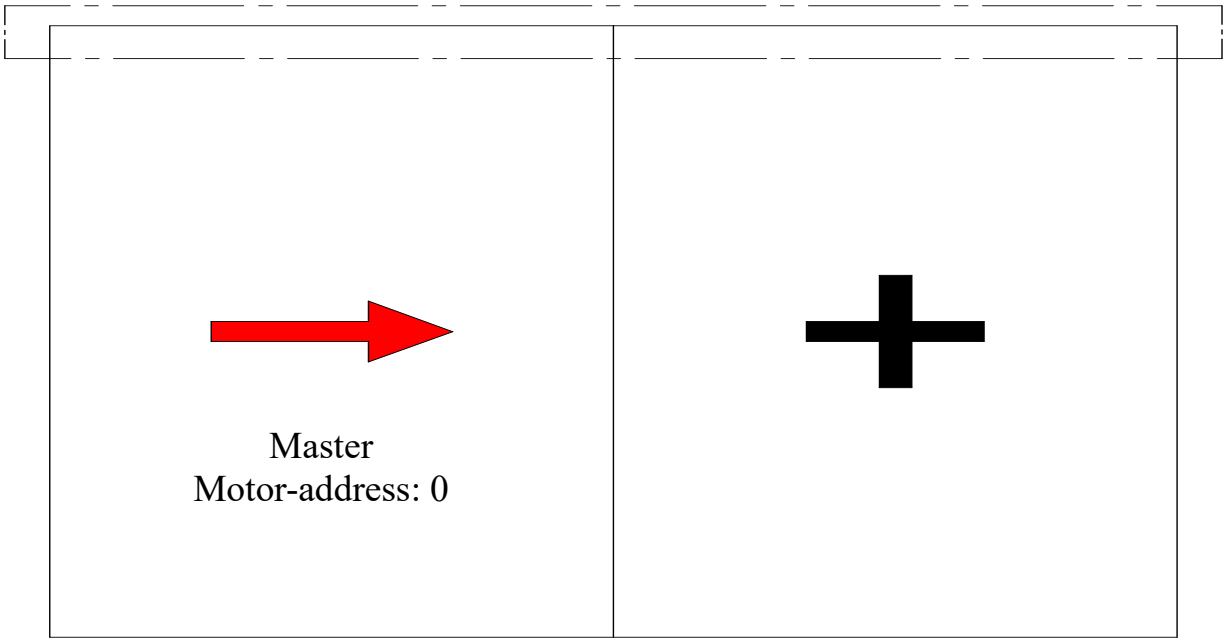
10.5 Accessories

The standard accessories are delivered ready to plug in. You only need to pay attention to the labels. The cables are labelled according to the identifiers next to the connectors. Any accessories not included in the Liberda delivery must be connected according to the wiring diagram.

11 Start-Up

Before starting-up, check whether a fixed end buffer limits the opening path of the door. If there is no guiding profile, limit the closing direction with a fixed end-buffer too.
All cables shown in the diagrams must be connected. Then establish the power supply with 110–230 V AC and check that the LEDs are flashing red and green alternately. (The flashing signals occur according to the specified number of flashes with pauses in between).
For initial start-up, set the endpoints and carry out an initial reference run to establish the required force.
Additional accessories or equipment can alter the standard behaviour of the doors. If additional accessories or equipment were delivered, please check the accompanying description and connecting diagrams.

11.1 Single Door



11.1.1 Description of functions and behaviour

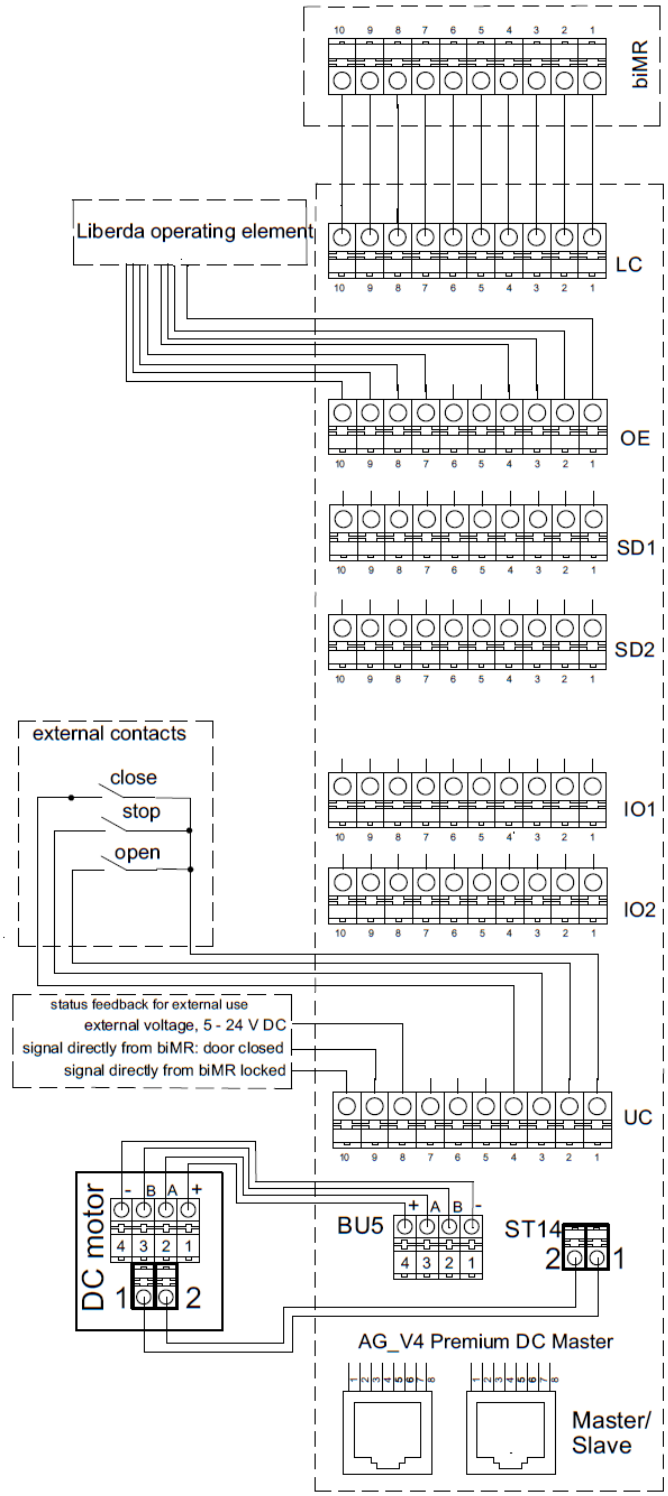
By default, the single door is operated using a three-button control interface.
After the start-up, the buttons are assigned the following functions (see point 7):

- The top button – OPEN
- The middle button – STOP
- The bottom button – CLOSE

The drive unit is programmed either in Dead-man mode or Impulse-mode.
The safety configuration of the drive must comply with local regulations and is therefore the responsibility of the distributor.
Impulse mode also allows ventilation and walk-through opening settings to be configured.

11.1.2 Electrical diagram

Before turning on the power, connect all parts of the drive unit according to the wiring diagram.



Master
IO-Board-address: 0

11.1.3 Summary of commands:

The following button combinations must be pressed within 2 seconds.

Open 1x pressed	The door opens completely.
Open 2x pressed	The door opens to the ventilation position if the ventilation position has been set and the door has been closed.
Open 3x pressed	The door opens to the walk-through positon if the walk-through positon has been set and the door has been closed.
Stop 1x pressed	The door stops immediately during any movement.
Close 1x pressed	The door closes completely

11.1.4 Start-up

1. Start-up via the three buttons (16, 17 and 18) on the control unit and signal LED or the Liberda operating element.
   After turning on the unit, the red and green LEDs should flash alternately. If this does not happen, the “endpoints” must be deleted:
   - Press and hold the middle button,
   - then press the top button,the bottom button, the top button and the bottom button inn that order,
   - then release the middle button.

   This sequence must be completed within five seconds, otherwise the entry is invalid.
   If the combination is correct, the endpoints are deleted and the red and green LEDs will flash alternately. You can delete the endpoints in this way and thereby reset the control if necessary.
   If the process fails after being repeated, check the LED code in the 'LED statuses' table.

2. Using the direction buttons, carefully move the sash to the desired open position.
   Important: The open position is always approached first.
   Attention:
   - Endpoints and power requirements are not yet known to the control unit.
   - Move the sash very carefully to the final positions, because obstacle detection is NOT active during the start-up.
   - Only after both endpoints have been set will the top button receive the OPEN function and the bottom button receive the CLOSE function.

3. When the door is in the open position, the OPEN endpoint is saved using the following button combination:
   - Press and hold the middle button,
   - then press the top button once,
   - then release the middle button.

   The green LED will then light up.

4. Use the direction buttons to carefully move the door to the desired closed position.
   If the system is equipped with a Liberda biMR electric lock, pay attention to the yellow LED:
   - The door is only considered closed for the purposes of control when the yellow LED is lit.

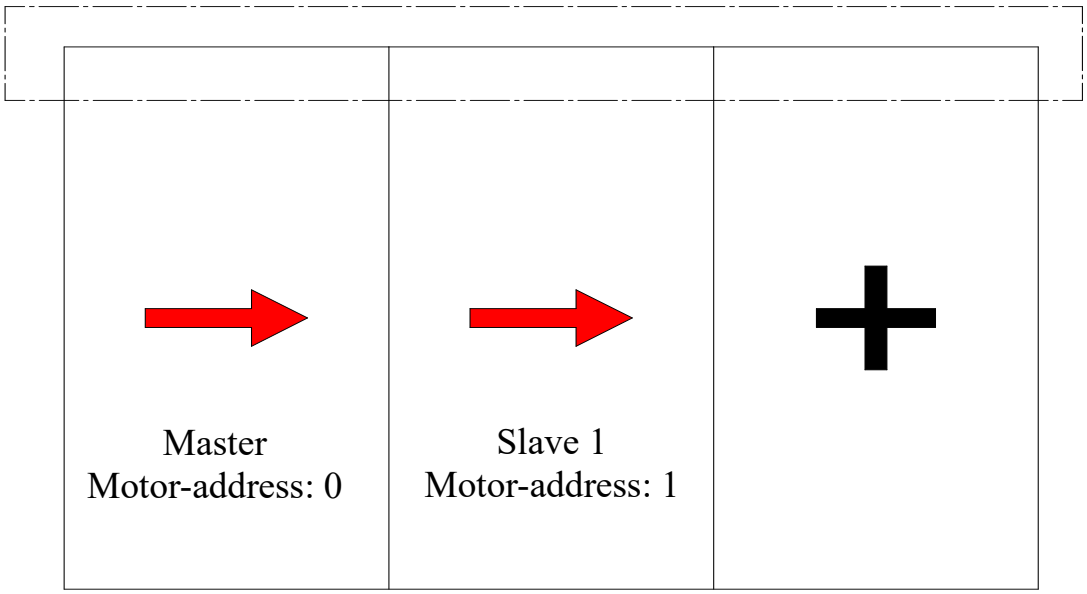
   If it is not active in the closed position, check this signal before continuing (see Locking, point 9).

5. When the sash has been moved to the closed position, the CLOSE endpoint is saved using the following button combination:
   - press and hold the middle button,
   - then press the bottom button once,
   - then release the middle button.

   The green and red LEDs will flash simultaneously. Both endpoints are now defined, and you can carry out the reference run to record the force requirement. The top button will only receive the OPEN function and the bottom button the CLOSE function once both endpoints have been set.

6. Press and hold the OPEN button until the door has completed one full cycle of opening and closing (keep the button pressed until the door is closed again and the red LED is no longer active). The green LED will then flash evenly to indicate that commissioning is complete.
   If the system is equipped with a Liberta biMR electric lock, the yellow LED will also light up.

11.2 Telescopic Door (with two or more sashes)



11.2.1 Description of functions and behaviour

By default, the telescopic door is operated using a three-button control interface.
After the start-up, the buttons are assigned the folloing functions (see point 7):

- The top button – OPEN
- The middle button – STOP
- The bottom button – CLOSE

The drive unit is programmed either in Dead-man mode or Impulse-mode.
The safety configuration of the drive must comply with local regulations and is therefore the responsibility of the distributor.
Impulse mode also allows ventilation and walk-through opening settings to be configured.

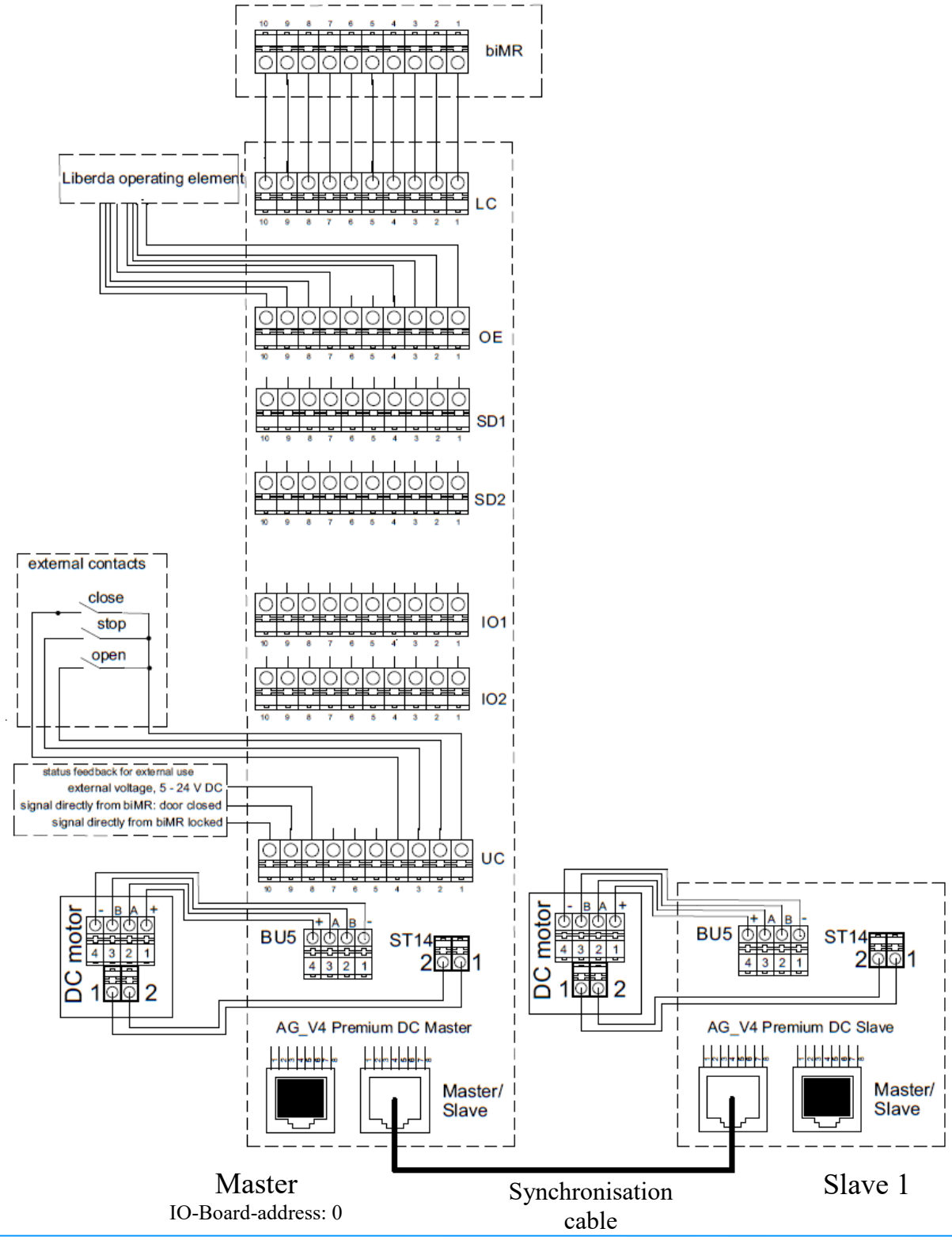
The telescopic door operates in “gathering” mode.

- The first sash, “Master”, begins to open when the opening command is issued.
- The second sash, “Slave”, only begins to open when the first sash, “Master”, is only about 25 cm away from the second sash.
- Only once both endpoints have been set, will the top button receive the OPEN function and the bottom button receive the CLOSE function.

When closing, all sashes move together, decelerating at the right moment to stop in their designated positions.

11.2.2 Electrical diagram

Before turning on the power, connect all parts of the drive unit according to the wiring diagram.



11.2.3 Summary of commands

The following button combinations must be pressed within 2 seconds.

Open1x pressed	The door opens completely
Open2x pressed	The door opens to the ventilation position if the ventilation position has been set and the door has been closed.
Open 3x pressed	The door opens to the walk-through positon if the walk-through positon has been set and the door has been closed. Depending on the saved distance, the relevant sashes will move as described.
Open 4x pressed	Only the first sash opens next to the second sash.
Stop 1x pressed	The door stops immediately during any movement.
Close 1x pressed	The door closes completely.

11.2.4 Start-up

1. Start-up via the three buttons (16, 17 and 18) on the control unit and signal LED or the Liberda operating element.
   After switching on the unit, the red and green LEDs should flash alternately. If this does not happen, delete the “endpoints”:
   - Press and hold the middle button,
   - then press the top button, the bottom button, the top button and the bottom button in this order,
   - then release the middle button.

   This sequence must be completed within five seconds; otherwise, the entry is invalid.
   If the combination is correct, the endpoints will be deleted and the red and green LEDs will flash alternately. You can always delete the endpoints in way and thereby reset the control if necessary.
   If the process fails after being repeated, check the LED code in the 'LED statuses' table.

2. During startup, the yellow LED indicates both the selected sash and the status of the locking system.
   When the lock is open:
   - The yellow LED shows the currently selected sash.
   - When the selected door closed signal is active (but the lock is not yet engaged), the yellow LED flashes quickly.
   - When both the door closed signal and the lock engaged signal are active for the selected sash, the yellow LED is constantly on.

3. Pressing the middle button allows you to select the necessary sash.
   First, select the “Master” sash (the sash with the longest travel) by pressing the middle button once. This is indicated by the yellow LED flashing regularly once.
   Pressing the middle button again selects the second sash, “Slave 1” (the sash next to the 'Master', with the second longest travel). This is indicated by the yellow LED flashing twice.

   Repeatedly pressing the middle button cycles through all the sashes. The number of flashes corresponds to the selected sash. When the last sash has been selected and the middle button is pressed again, the selection jumps back to the 'Master' sash.
   The required sash can always be selected in this way.

4. Using the direction buttons, carefully move the sash to the desired open position.
   Watch the movements of the individual sashes carefully to avoid collisions.
   To adjust: Carefully move the selected sash into its final open position. If a collision occurs with the next sash before the selected sash has reached its final position, switch to the next sash and open it first. Then switch back to the previous sash and open it completely.

   Important: always approach the open position first.
   Attention:
   - Endpoints and power requirements are not yet known to the control unit.
   - Move the sashes very carefully to the final positions, because obstacle detection is NOT active during the start-up.
   - Only once both endpoints have been set, will the top button receive the OPEN function and the bottom button receive the CLOSE function.

5. When all sashes have been moved to the open position, save the OPEN endpoint using the following button combination:
   - Press and hold the middle button.
   - then press the top button once.
   - then release the middle button.

   The green LED will then light up.

6. Now bring all sashes into the closed position in the same way.
   If the system is equipped with a Liberda biMR electric lock, pay attention to the yellow LED:
   - The door is only considered closed for the purposes of control when the yellow LED is lit.

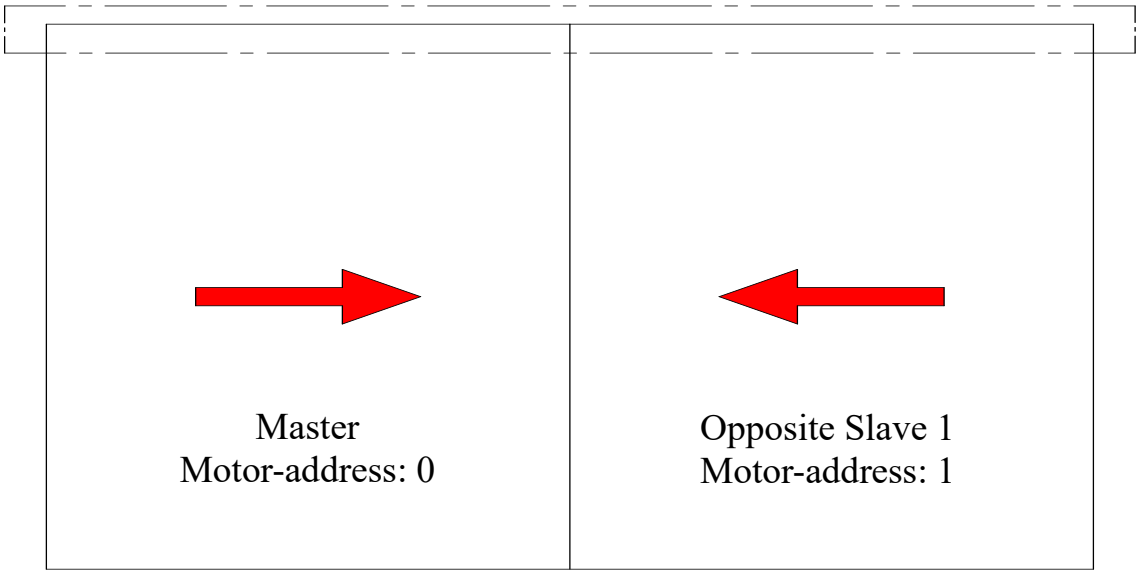
   If it is not active in the closed position, check this signal before continuing (see Locking, point 9).

7. When all sashes have been moved to their closed position, save the CLOSE using the button combination:
   - press and hold the middle button.
   - then press the bottom button once.
   - then release the middle button.

   The green and red LEDs will flash simultaneously. Both endpoints are now defined, and you can carry out the reference run to record the force requirement.
   The top button will only receive the OPEN function and the bottom button the CLOSE function once both endpoints have been set.

8. Press and hold the OPEN button until the door has completed one full cycle of opening and closing. Keep the button pressed until the door is closed again and the red LED is no longer active. The green LED will then flash evenly to indicate that commissioning is complete.
   If the system is equipped with a Liberta biMR electric lock, the yellow LED will also light up.

11.3 Slide-Slide Door



11.3.1 Description of functions and behaviour

By default, the Slide-Slide door is operated using a three-button control interface.
After the start-up, the buttons are assigned the following functions (see point 7):

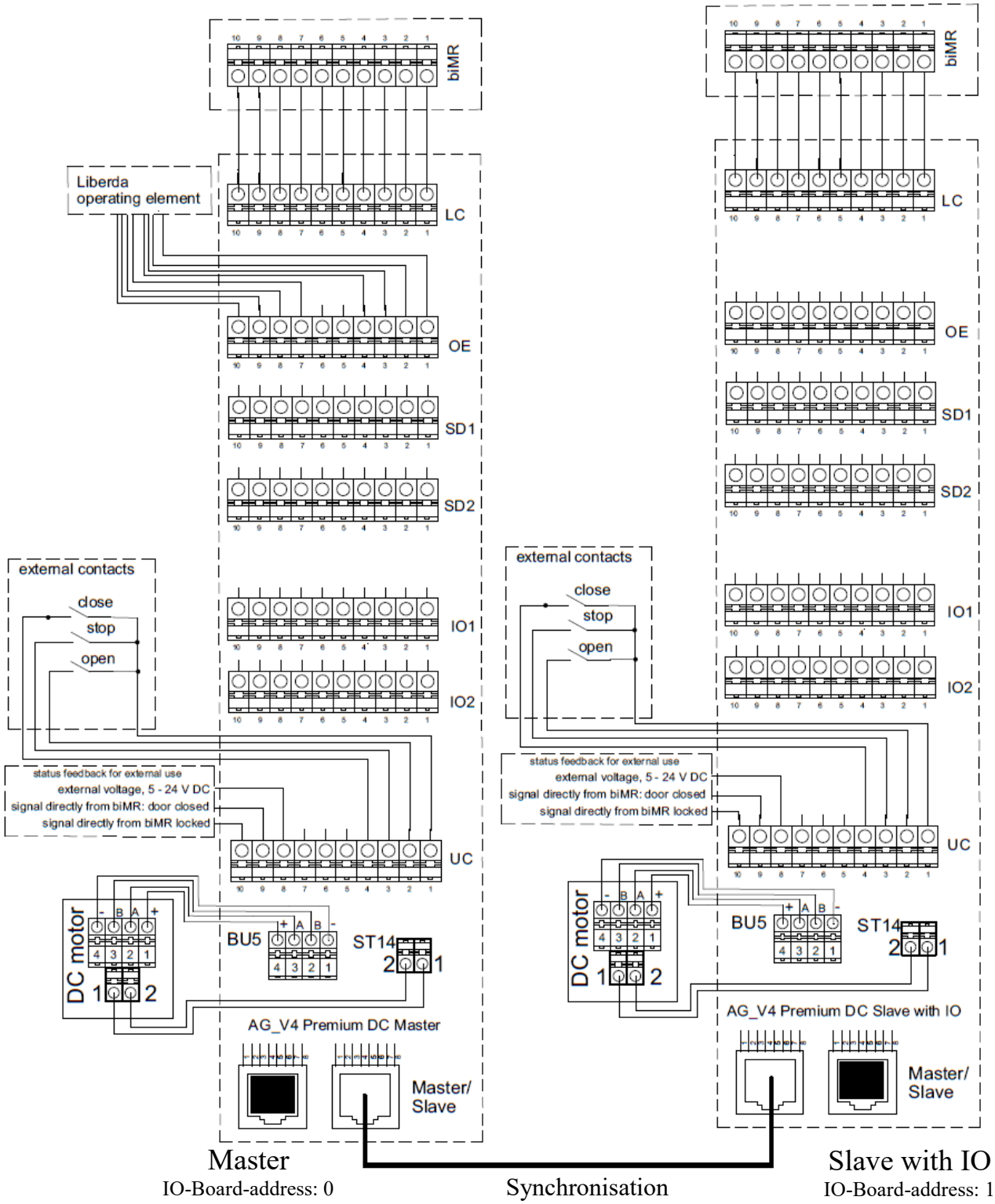
- The top button – OPENS the “Master” sash and all other necessary sashes
- The middle button – STOPS all sashes during movement, or CLOSES all sashes
- The bottom button – OPENS the “Opposite Slave” sash and all other necessary sashes

The drive unit is programmed in either Dead-man mode or Impulse-mode.
The safety configuration of the drive must comply with local regulations and is therefore the responsibility of the distributor.
Impulse mode also allows ventilation and walk-through opening settings to be configured.

If one side is open and the other side receives an open command, the system will automatically close the open side. If the other side should only open next to the open door, use the walk-through position command.

11.3.2 Electrical diagram

Before turning on the power, connect all parts of the drive unit according to the wiring diagram.



Master
IO-Board-address: 0

Synchronisation cable

Slave with IO
IO-Board-address: 1

11.3.3 Summary of commands:

The following button combinations must be pressed within 2 seconds.

Top button 1x pressed	The “Master” sash opens completely.
Top button 2x pressed	The “Master” sash opens to the ventilation position, if the ventilation position has been set and the door has been closed.
Top button 3x pressed	The “Master” sash opens to the walk-through positon, if the walk-through positon has been set and the door has been closed.
Middle button 1x pressed	The door stops immediately during any movement.
Middle button 1x pressed	If the door is not closed, it will close completely.
Middle button 1x pressed	If the doors are already closed - both sashes will slide to the middle position and stand behind each other.
Bottom button 1x pressed	The “Slave” sash opens completely.
Bottom button 2x pressed	The “Slave” sash opens to the ventilation position if the ventilation position has been set and the door has been closed.
Bottom button 3x pressed	Slave sash opens to the walk-through positon, if the walk-through positon has been set and the door has been closed.

11.3.4 Start-up

1. Start-up the unit using the three buttons (16, 17 and 18) on the control unit and signal LED or the Liberda operating element.
   After turning on the unit, the red and green LEDs should flash alternately. If this does not happen, delete the “endpoints” using following button combination:
   - Press and hold the middle button,
   - then press the top button, the bottom button, the top button and the bottom button in this order,
   - then release the middle button.

   This sequence must be completed within five seconds, otherwise the entry is invalid.
   If the combination is correct, the endpoints will be deleted and the red and green LEDs will flash alternately. You can always delete the endpoints this way and thereby reset the control if necessary.
   If the process fails after being repeated, check the LED code in the 'LED statuses' table.

2. During startup, the yellow LED indicates both the selected sash and the status of the locking system.
   When the lock is open:
   - The yellow LED shows the currently selected sash.
   - When the selected door closed signal is active (but the lock is not yet engaged), the yellow LED flashes quickly.
   - When both the door closed signal and the lock engaged signal are active for the selected sash, the yellow LED remains on.

3. Pressing the middle button selects the necessary sash.
   First, select the sash labelled 'Master' (the sash with the motor address 0) by pressing the middle button once. This is indicated by the yellow LED flashing regularly once.
   Pressing the middle button again selects the 'Opposite Slave' sash (the sash with the motor address 1). This is indicated by the yellow LED flashing twice.
   Press the middle button repeatedly to cycle through all the sashes. The number of flashes corresponds to the selected sash. When the last sash has been selected and the middle button is pressed again, the selection reverts to the 'Master' sash.
   You can always select the required sash in this order.

4. Using the direction buttons, move the sashes carefully to the desired open position.

   Important: The open position of the sash “Master” is always approached first.
   Attention:
   - Endpoints and power requirements are not yet known to the control unit.
   - Move the sash very carefully to the final positions, because obstacle detection is NOT active during the start-up.
   - Only once both endpoints have been set, will the top button receive the OPEN function and the bottom button receive the CLOSE function.

5. When the “Master” sash is in the open position, the OPEN endpoint is saved using the following button combination:
   - Press and hold the middle button,
   - then press the top button once,
   - then release the middle button.

   The green LED will then light up.

6. Use the direction buttons to carefully move the “Master” sash to the desired closed position. If the system is equipped with a Liberda biMR electric lock, pay attention to the yellow LED:
   - The door is only considered closed for the purposes of control when the yellow LED is lit.
     If it is not active in the closed position, check this signal before continuing (see Locking, point 9).

7. When the sash has been moved to the closed position, the CLOSE endpoint is saved using the following button combination:
   - press and hold the middle button,
   - then press the bottom button once,
   - then release the middle button.

   The **red and green LEDs will then flash alternately twice**.

8. Fully open the sash “Opposite Slave with IO” and use the direction buttons to carefully move it into the desired open position.

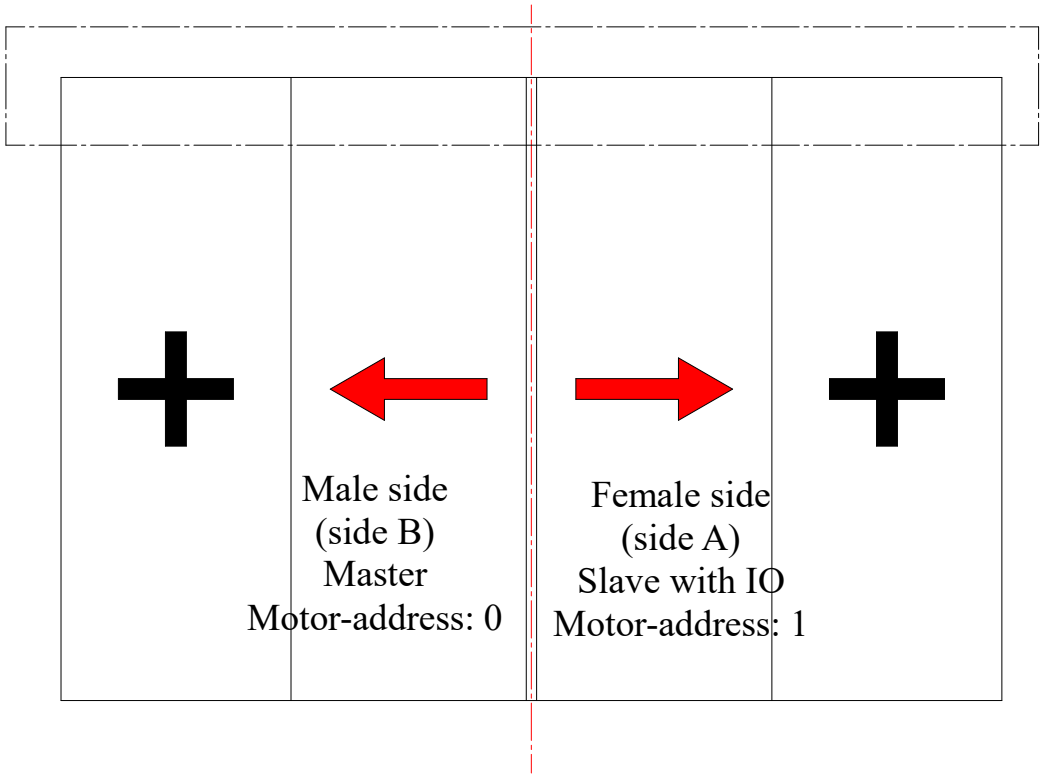
9. When sash “Opposite Slave” is in the open position, the OPEN endpoint is saved using the following button combination:
   - press and hold the middle button,
   - then press the top button once,
   - then release the middle button.

   The green and red LEDs will flash simultaneously. All endpoints are now defined, and you can carry out the reference run to record the force requirement.

10. Press and hold the top button for the reference run.
    The sash “Opposite Slave” will close first, then the sash “Master” will open and close automatically.
    After that, the sash “Opposite Slave” will open and close. Once this complete cycle is finished (keep the button pressed until the red LED is no longer active), the green LED will then flash evenly to indicate that commissioning is complete.

    If the system is equipped with a Liberda biMR electric lock, the yellow LED will light up.

11.4 Face-to-Face Door



11.4.1 Description of functions and behaviour

The Face-to-Face door is operated using a three-button control interface by default.
After the start-up, the buttons are assigned the following functions (see point 7):

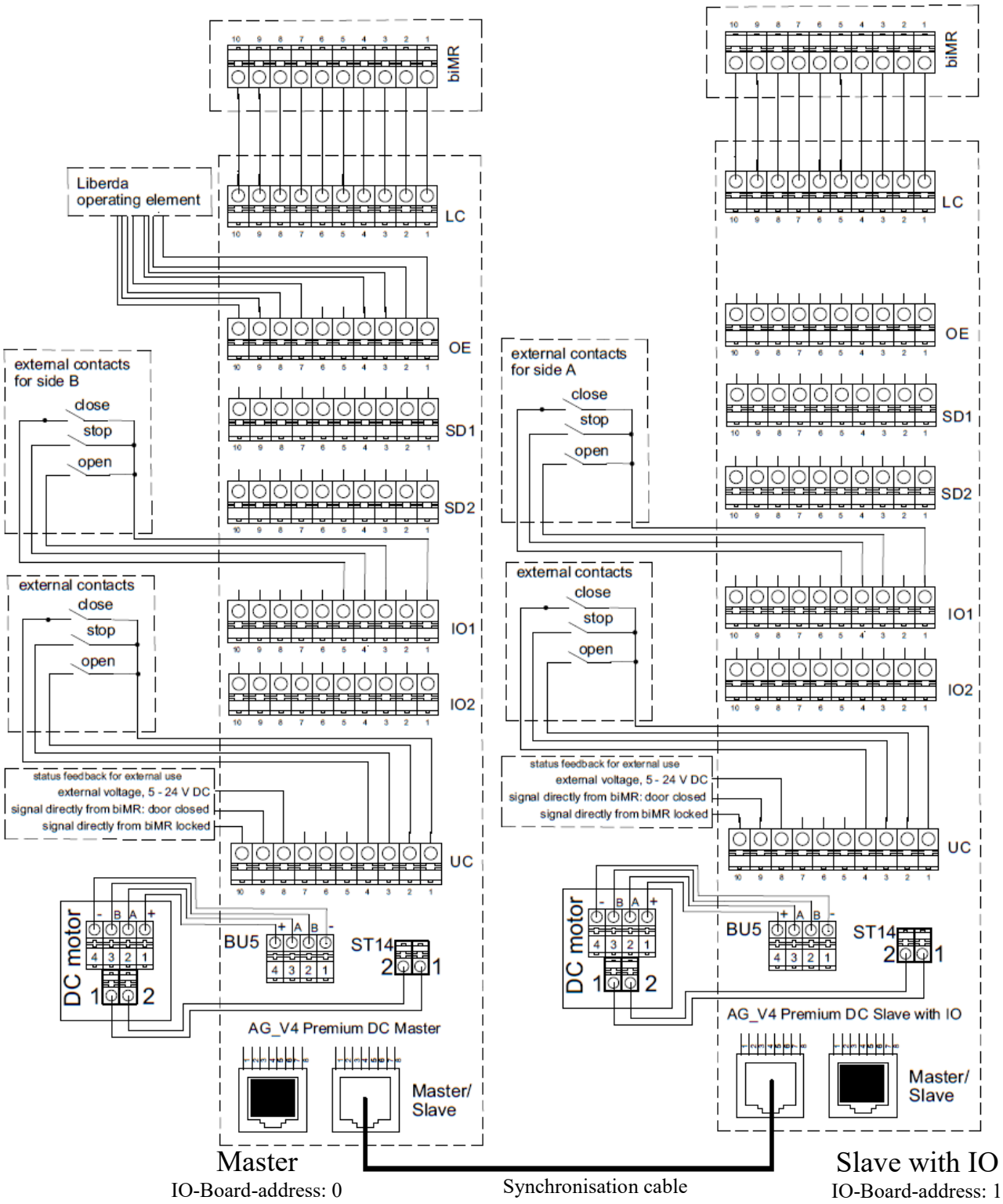
- The top button – OPEN both sides
- The middle button – STOP both sides
- The bottom button – CLOSE both sides

The drive unit can be programmed in Deadman or Impulse-mode.
The distributor is responsible for ensuring that the safety configuration of the drive complies with local regulations.
Impulse-mode also allows the configuration of a ventilation and a walk-trough opening settings.

With the standard command, both sides will start to open or close at the same time.
However, if the two sides are of different sizes, they may stop at different times.
According to the electrical diagram, it is possible to connect external contacts in order to operate each side individually.

11.4.2 Electrical diagram

Before turning on the power, connect all parts of the drive unit according to the wiring diagram..



11.4.3 Summary of commands:

The following button combinations must be pressed within 2 seconds.

Open 1x pressed	The doors open completely.
Open 2x pressed	The doors open to the ventilation position if the ventilation position has been set and the doors have been closed.
Open 3x pressed	The doors open to the walk-through positon, if the walk-through positon has been set and the doors have been closed.
Stop 1x pressed	The doors stop during any movement.
Close 1x pressed	The doors close completely.

11.4.4 Start-up

1. Start-up the unit using the three buttons (16, 17 and 18) on the control unit and signal LED or the Liberda operating element.
   After turning on the unit, the red and green LEDs should flash alternately. If this does not happen, delete the “endpoints” using following button combination:

   - Press and hold the middle button,
   - then press the top button,the bottom button,the top button and bottom button in this order,
   - then release the middle button.
     This sequence must be completed within five seconds, otherwise the entry is invalid. If the combination is correct, the endpoints will be deleted and the red and green LEDs will flash alternately. You can always delete the endpoints this way and thereby reset the control if necessary.
     If the process fails after being repeated, check the LED code in the 'LED statuses' table.

2. During startup, the yellow LED indicates both the selected sash and the status of the locking system.
   When the lock is open:
   - The yellow LED shows the currently selected sash.
   - When the selected door closed signal is active (but the lock is not yet engaged), the yellow LED flashes quickly.
   - When both the “door closed” signal and the “lock engaged” signal are active for the selected sash, the yellow LED remains constantly on.

3. Pressing the middle button selects the necessary sash.
   First, select the sash labelled 'Master' (the sash with the motor address 0) by pressing the middle button once. This is indicated by the yellow LED flashing regularly once.
   Pressing the middle button again selects the 'Opposite Slave' sash (the sash with the motor address 1). This is indicated by the yellow LED flashing twice.
   Press the middle button repeatedly to cycle through all the sashes. The number of flashes corresponds to the selected sash. When the last sash has been selected and the middle button is pressed again, the selection reverts to the 'Master' sash.
   You can always select the required sash in this order.

4. Using the direction buttons, carefully move the sash to the desired open position.
   Press the middle button to select the desired sash, then carefully move it to the final open position. Then select the other side and move it also to the final open position.

   Important: The open position is always approached first.
   Attention:
   - Endpoints and power requirements are not yet known to the control unit.
   - Move the sashes very carefully to the final positions, because obstacle detection is NOT active during the start-up.
   - Only after both endpoints have been set, will the top button receive the OPEN function and the bottom button receive the CLOSE function.

5. When all sashes have been moved to the open position, save the OPEN endpoint using the button combination:
   - press and hold the middle button,
   - then press the top button once,
   - then release the middle button.

   The green LED will then light up.

6. Now bring all sashes into the closed position in the same way.
   If the system is equipped with a Liberda biMR electric lock, pay attention to the yellow LED:
   - The door is only considered closed for the purposes of control when the yellow LED is lit.

   If it is not active in the closed position, check this signal before continuing (see Locking, point 9).

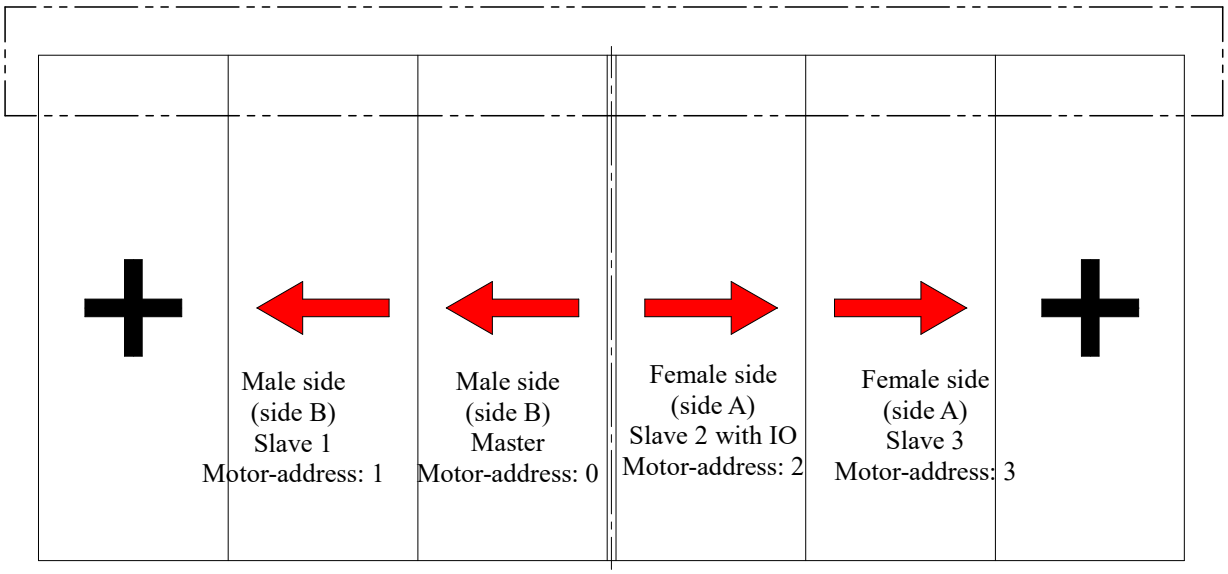
7. When all sashes have been moved to their closed position, save the CLOSE endpoint using the following button combination:

   - press and hold the middle button,
   - then press the bottom button once,
   - then release the middle button.

   The green and red LEDs will flash simultaneously. oth endpoints are now defined, and you can carry out the reference run to record the force requirement.
   The top button will only receive the OPEN function and the bottom button the CLOSE function once both endpoints have been set.

8. Press and hold the OPEN button until the door has opened and closed once, completing a full cycle (keep the button pressed until the door closes again and the red LED stops flashing).
   The green LED will then flash evenly to indicate that commissioning is complete.
   If the system is equipped with a Liberta biMR electric lock, the yellow LED will also light up.

11.5 Face-to-Face Telescopic Door



11.5.1 Description of functions and behaviour

The Face-to-Face Telescopic door is operated using a three-button control interface by default. After the start-up, the buttons are assigned the following functions (see point 7):

- The top-button – OPEN both sides
- The middle-button – STOP both sides
- The bottom-button – CLOSE both sides

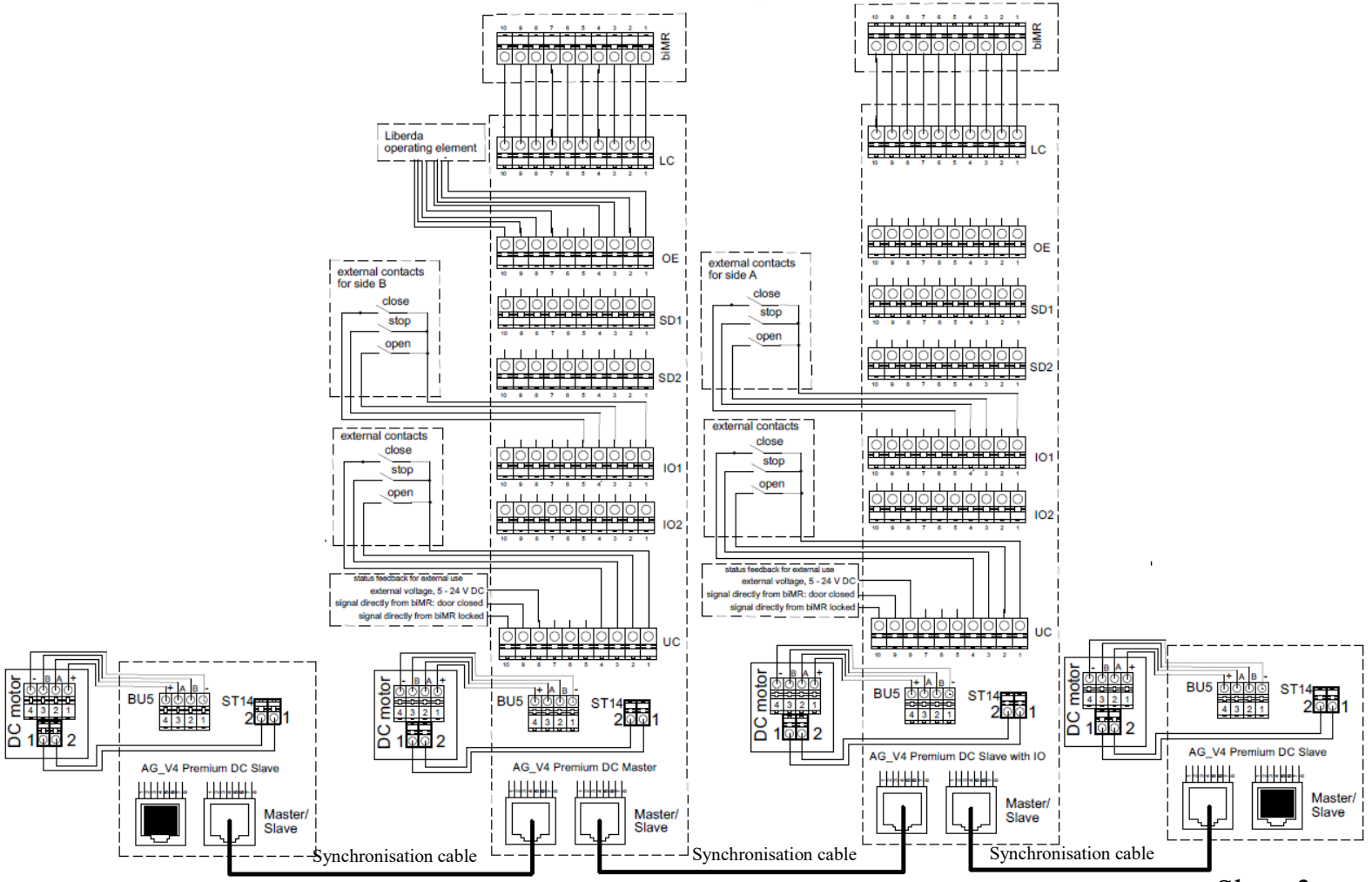
The drive unit can be programmed in Deadman or Impulse-mode.
The distributor is responsible for ensuring that the safety configuration of the drive complies with local regulations.
Impulse-mode also allows the configuration of a ventilation and a walk-trough opening settings.

With the standard command, both sides will start to open or close at the same time.
If the two sides are of different sizes, they may stop at different times.
According to the wiring diagram, it is possible to connect external contacts to operate each side individually.

The telescopic door on each side operates in “gathering” mode.
The first sash, the “Master” begins to open when the opening command is issued. The second sash “Slave” only begins to open when the first sash is only about 25 cm away from the second sash.
Any subsequent sashes begin to open when the previous sash is approximately 25 cm away from the next one. When closing, all sashes start to move together, with the last sash decelerating in good time to stop in its designated position. The same applies to the other side.

11.5.2 Electrical diagram

Before turning on the power, connect all parts of the drive unit according to the wiring diagram.



11.5.3 Summary of commands

The following button combinations must be pressed within 2 seconds.

Open 1x pressed	The doors open completely.
Open 2x pressed	The doors open to the ventilation position if the ventilation position has been set and the doors have been closed.
Open 3x pressed	The doors open to the walk-through positon, if the walk-through positon has been set and the doors have been closed.
Open 4x pressed	The “Master” sash moves behind the “Slave 1” sash.
Stop 1x pressed	The door stops immediately during any movement.
Close 1x pressed	The doors close completely.

11.5.4 Start-up

1. Start-up the unit using the three buttons (16, 17 and 18) on the control unit and signal LED or the Liberda operating element.
   After turning on the unit, the red and green LEDs should flash alternately. If this does not happen, delete the “endpoints” using the following button combination:
   - Press and hold the middle button,
   - then press the top button, the bottom button, the top button and the bottom button in this order,
   - then release the middle button.

   This sequence must be completed within five seconds, otherwise the entry is invalid.
   If the combination is correct, the endpoints are deleted and the red and green LEDs will flash alternately. You can always delete the endpoints this way and thereby reset the control if necessary.
   If the process fails after being repeated, check the LED code in the 'LED statuses' table.

2. During startup, the yellow LED indicates both the selected sash and the status of the locking system.
   When the lock is open:
   - The yellow LED shows the currently selected sash.
   - When the selected door closed signal is active (but the lock is not yet engaged), the yellow LED flashes quickly.
   - When both the “door closed” signal and the “lock engaged” signal are active for the selected sash, the yellow LED remains constantly on.

3. Pressing the middle button selects the necessary sash.
   First, select the sash labelled 'Master' (the sash with the motor address 0) by pressing the middle button once. This is indicated by the yellow LED flashing regularly once.
   Pressing the middle button again selects the sash “Slave 1” (the sash with the motor address 1). This is indicated by the yellow LED flashing twice.
   Pressing the middle button again selects the 'Slave 2 with IO' sash (the sash with motor address 2). This is indicated by the yellow LED flashing three times.
   Press the middle button repeatedly to cycle through all the sashes. The number of flashes corresponds to the selected sash. When the last sash has been selected and the middle button is pressed again, the selection reverts to the 'Master' sash.
   The required sash can always be selected in this order.

4. All sashes can be carefully moved into the desired open position using the direction buttons. Select the desired sash using the middle button and carefully move it to the final open position. Watch the movements of the individual sashes carefully to avoid collisions.
   To adjust: Carefully move the selected sash into its final open position. If a collision occurs with the next sash before the selected sash has reached its final position, switch to the next sash and open it first. Then switch back to the previous sash and open it completely.
   Important: The open position is always approached first.
   Attention:
   - Endpoints and power requirements are not yet known to the control unit.
   - Move the sashes very carefully to the final positions, because obstacle detection is NOT active during the start-up.
   - Only after both endpoints have been set, will the top button receive the OPEN function and the bottom button receive the CLOSE function.

5. Once all the sashes are in the open position, save the OPEN endpoint using the following button combination:
   - press and hold the middle button,
   - then press the top button once,
   - then release the middle button.

   The green LED will then light up.

6. Bring all sashes into the closed position in the same way.
   If the system is equipped with a Liberta biMR electric lock, pay attention to the yellow LED.:
   - The door is only considered closed for the purposes of control when the yellow LED is lit.

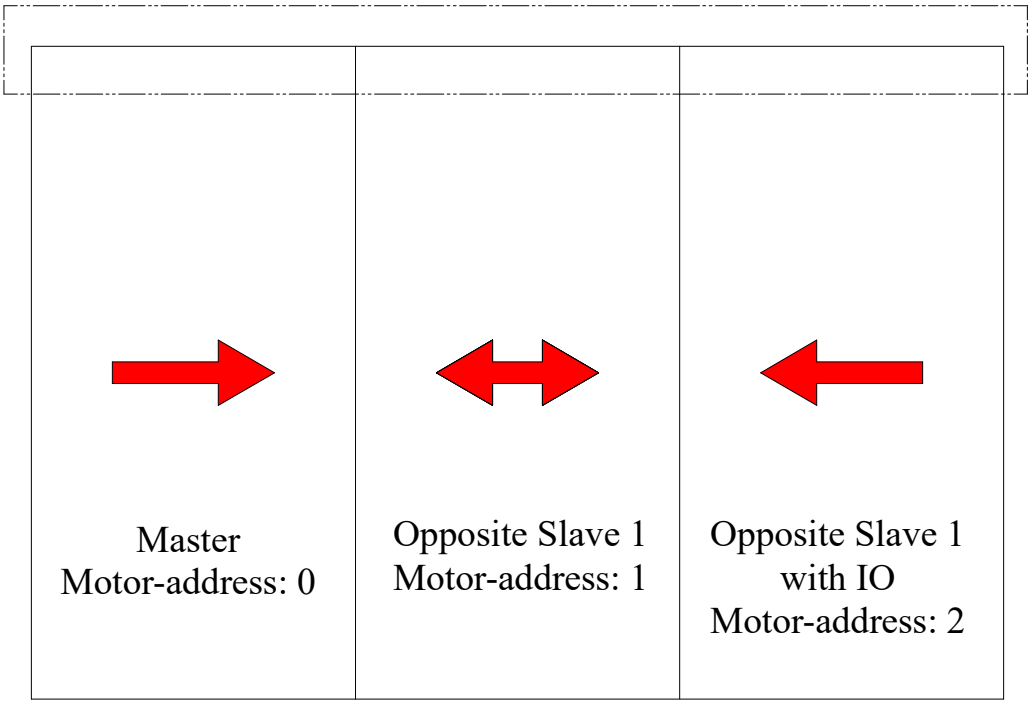
   If it is not active in the closed position, check this signal before continuing (see Locking, point 9).

7. Once all the sashes are in the closed position, save the CLOSE endpoint using the following button combination:
   - press and hold the middle button,
   - then press the bottom button once,
   - then release the middle button.

   The green and red LEDs will flash simultaneously. Both endpoints are now defined and you can carry out the reference run to record the force requirement.
   The top button will only receive the OPEN function and the bottom button the CLOSE function once both endpoints have been set.

8. Press and hold the OPEN button until the door has opened and closed once, completing a full cycle (keep the button pressed until the door closes again and the red LED stops flashing).
   The green LED will then flash evenly to indicate that commissioning is complete.
   If the system is equipped with a Liberta biMR electric lock, the yellow LED will also light up.

11.6 Flying Telescopic Door (with three or more sashes)



11.6.1 Description of functions and behaviour

By default, the flying telescopic door is operated using a three-button control interface.
After the start-up, the buttons are assigned the following functions (see point 7):

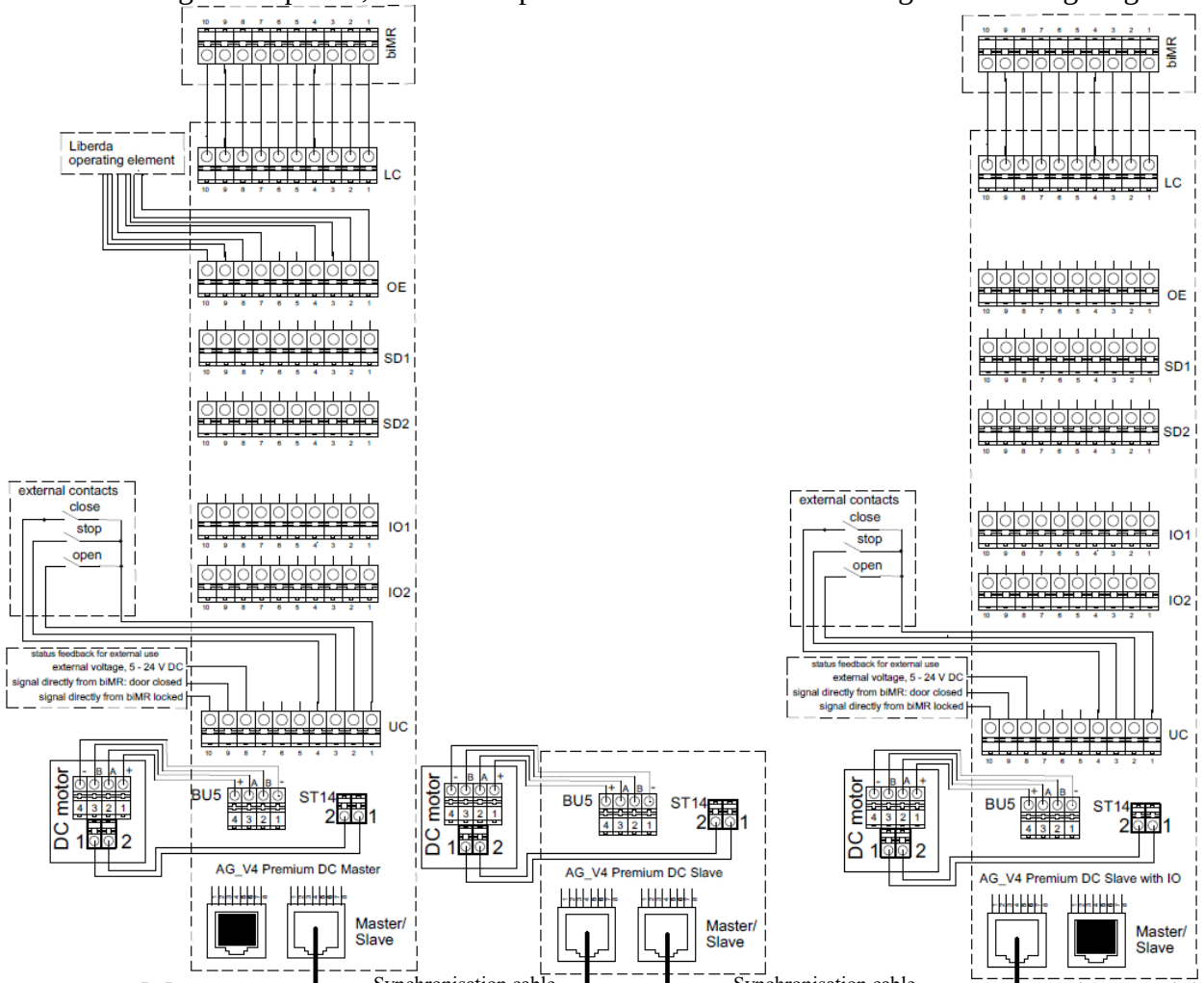
- The top-button – OPENS the “Master” sash and all other necessary sashes
- The middle-button – STOPS all sashes during movement, or CLOSE all sashes
- The bottom-button – OPENS the “Opposite Slave 2” sash and all other necessary sashes

The drive unit can be programmed in Deadman or Impulse-mode.
The distributor is responsible for ensuring that the safety configuration of the drive complies with local regulations.
Impulse-mode also allows the configuration of a ventilation and a walk-trough opening settings.
If one side is open and the other side receives an OPEN command, the system will automatically close the previously opened doors.

The telescopic door on each side operates in “gathering” mode.
The one of the end sashes (“Master” or last “opposite Slave”) begins to open when the opening command is issued. The next sash, the “Opposite Slave”, only begins to open when the first sash is approximately 25 cm away from the second sash. Any additional sashes begin to open when the previous sash is only approximately 25 cm away from the third sash.
When closing, all sashes start to move together, and the middle sash decelerates in good time before stopping in its designated position.

11.6.2 Electrical diagram

Before turning on the power, connect all parts of the drive unit according to the wiring diagram.



11.6.3 Summary of commands:

The following button combinations must be pressed within 2 seconds.

Top button 1x pressed	The “Master” and “Opposite Slave 1” sashes open completely.
Top button 2x pressed	The “Master” sash opens to the ventilation position if the ventilation position has been set and the door has been closed.
Top button 3x pressed	The “Master” sash opens to the walk-through positon if the walk-through positon has been set and the door has been closed.
Middle button 1x pressed	The doors stop immediately during any movement. If the doors have been open, they will close completely.
Middle button 1x pressed	If the door has not been closed - the door will close completely.
Middle button 1x pressed	If the doors have been already closed - both doors will open to the middle position.
bottom button 1x pressed	The “Opposite Slave 2” and “Opposite Slave 1” sash open completely.
bottom button 2x pressed	The “Opposite Slave 2” sash opens to the ventilation position, if the ventilation position has been set and the door has been closed.
bottom button 3x pressed	The “Opposite Slave 2” sash opens to the walk-through positon, if the walk-through positon has been set and the door has been closed.

11.6.4 Start-up

1. Start-up th unit using the three buttons (16, 17 and 18) on the control unit and signal LED or the Liberda operating element
   After turning on the unit, the red and green LEDs should flash alternately. If this does not happen, delete the “endpoints” using following button combination:

- Press and hold the middle button,
- then press the top button, the bottom button, the top button and the bottom button in this order.
- then release the middle button.

This entry must be completed within five seconds, otherwise the entry is invalid.
If the combination is correct, the endpoints are deleted and the red and green LEDs will flash alternately. You can always delete the endpoints this way and thereby reset the control if necessary.
If the process fails after being repeated, check the LED code in the 'LED statuses' table.

2. During startup, the yellow LED indicates both the selected sash and the status of the locking system.
- The yellow LED shows the currently selected sash.
- When the selected door closed signal is active (but the lock is not yet engaged), the yellow LED flashes quickly.

3. Pressing the middle button selects the necessary sash.
   First, select the “Master” sash (the sash with the motor address 0) by pressing the middle button once. This is indicated by the yellow LED flashing regularly once.
   Pressing the middle button again selects the sash “Opposite Slave 1” (the sash with the motor address 1). This is indicated by the yellow LED flashing twice.
   Pressing the middle button again selects the “Opposite Slave 2 with IO” sash (the sash with motor address 2). This is indicated by the yellow LED flashing three times.
   Press the middle button repeatedly to cycle through all the sashes. The number of flashes corresponds to the selected sash. When the last sash has been selected and the middle button is pressed again, the selection reverts to the 'Master' sash.
   The required sash can always be selected in this order.

4. Use the direction buttons to carefully move the sash to the desired open position.

Important: The open position is always approached first.
Attention:
- Endpoints and power requirements are not yet known to the control unit.
- Move the sashes very carefully to the final positions, because obstacle detection is NOT active during the start-up.
- Only after both endpoints have been set, will the top button receive the OPEN function and the bottom button receive the CLOSE function.

5. When the“Master” sash and all following “Opposite Slave” sashes are in the open position, the OPEN endpoint is saved using the following button combination:
- press and hold the middle button,
- then press the top button once,
- then release the middle button.

The green LED will then light up.

6. Bring all sashes into the closed position in the same way.
   If the system is equipped with a Liberta biMR electric lock, pay attention to the yellow LED.:
- The door is only considered closed for the purposes of control when the yellow LED is lit.

If it is not active in the closed position, check this signal before continuing (see Locking, point 9).

7. When the sash has been moved to the closed position, the CLOSE endpoint is saved using the following button combination:
- press and hold the middle button,
- then press the bottom button once,
- then release the middle button.

The **red and green LEDs will then flash alternately twice**.

8. Fully open the last sash “Opposite Slave 2 with IO”, and then all the following 'Opposite Slave' sashes. Use the direction buttons to carefully move to the desired open position.

9. When the “Opposite Slave” sash and all the following “Opposite Slave” sashes are in the open position, the OPEN endpoint is saved using the following button combination:
- press and hold the middle button,
- then press the top button once,
- then release the middle button.

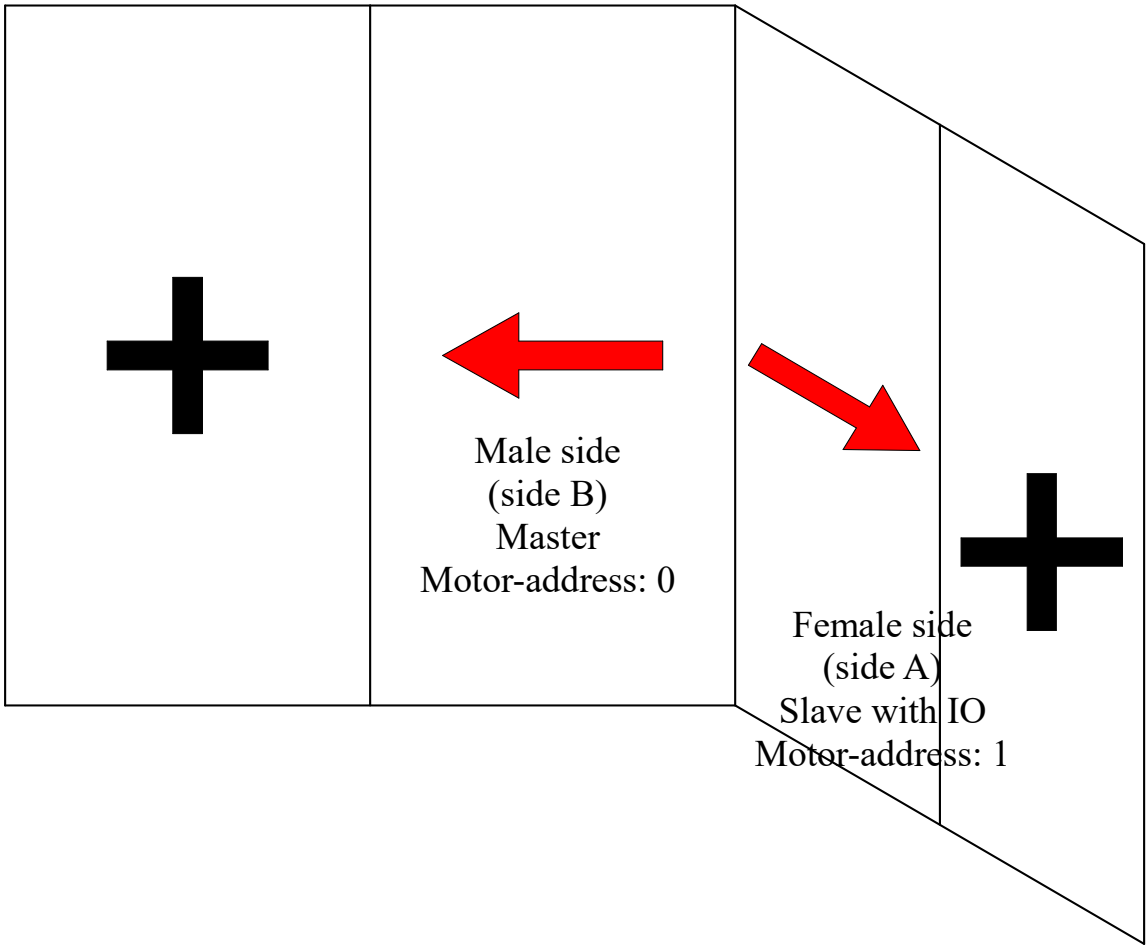
The green and red LEDs will flash simultaneously. All endpoints are now defined, and you can carry out the reference run to record the force requirement.

10. Press and hold the top button for the reference run.
- The “Opposite Slave 2 with IO” sash and all following “Opposite Slave” sashes will close first.
- Then the “Master” sash and all following “Opposite Slave” sashes start to open and closes automatically.
- After that the “Opposite Slave 2 with IO” sash and all the following “Opposite Slave” sashes will open and close.

Once this complete cycle is finished, keep the button pressed until the red LED is no longer active. The green LED will then flash evenly to indicate that commissioning is complete.

If the system is equipped with a Liberta biMR electric lock, the yellow LED will also light up.

11.7 Simple corner door



11.7.1 Description of functions and behaviour

By default, the Simple corner door is operated using a three-button control interface.
After the start-up, the buttons are assigned the following functions (see point 7):

- The top button – OPEN both sides
- The middle button – STOP both sides
- The bottom button – CLOSE both sides

The drive unit can be programmed in Deadman or Impulse-mode.
The distributor is responsible for ensuring that the safety configuration of the drive complies with local regulations.
Impulse-mode also allows the configuration of a ventilation and a walk-trough opening settings.
With the standard command both sides are controlled.

During opening and closing, both sashes automatically follow the required mechanical opening or closing sequence.

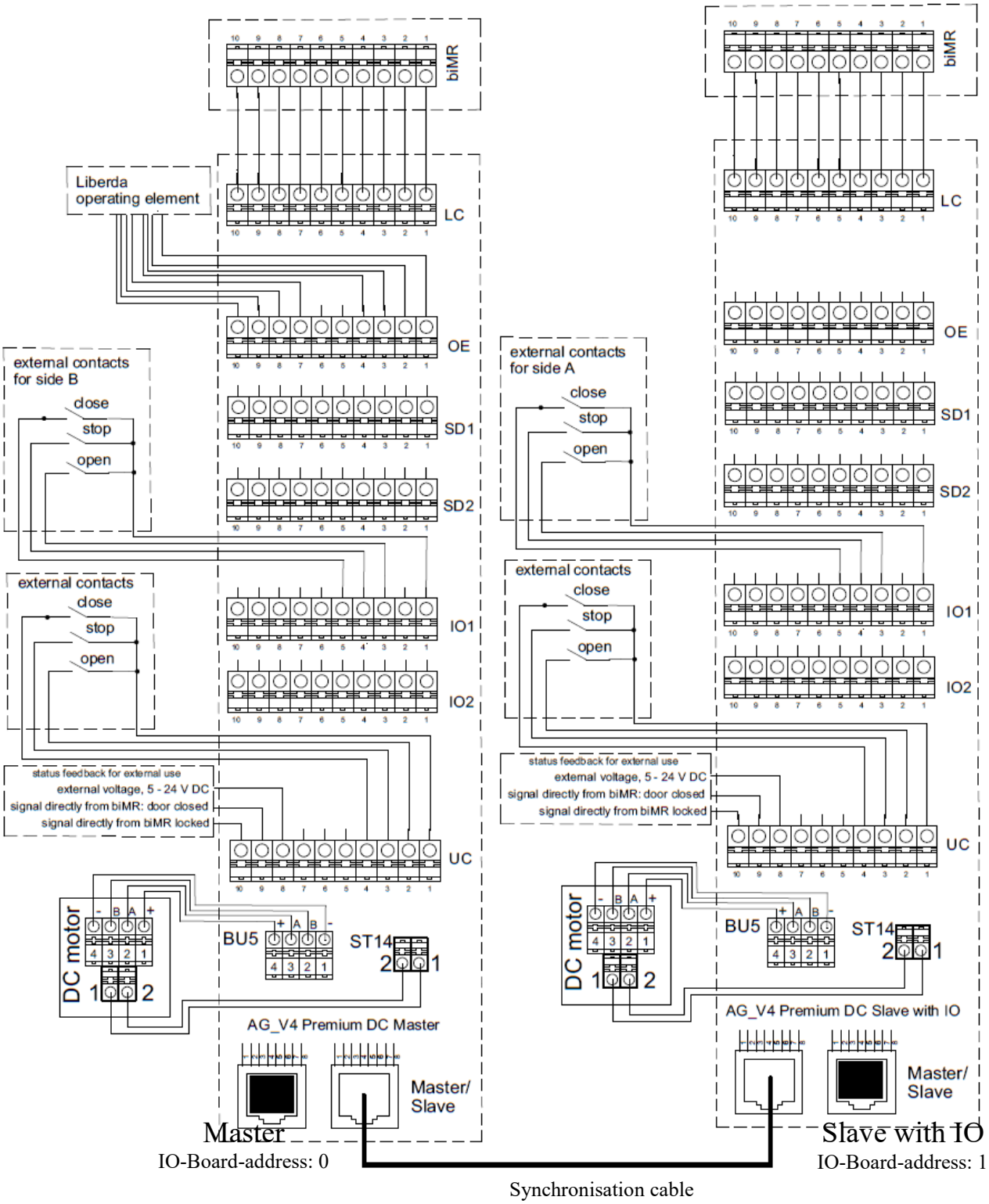
According to the wiring diagram, external contacts can be connected to operate each side individually.

If one side is operated individually, the system automatically follows the required opening or closing sequence to prevent collisions.
If the female side opens, the control unit automatically opens the male side just enough to free the female side (corner clearance position).

If both sides are open and the male side closes individually, it will automatically stop at the corner clearance position and wait for the female side to open. It is necessary to select the female side and reach its corner position. As soon as the female side is closed, the male side will automatically close.
The corner clearance position and the ventilation position are different, so if the male side is positioned in the ventilation position, it will not close automatically.

11.7.2 Electrical diagram

Before turning on the power, connect all parts of the drive unit according to the wiring diagram.



11.7.3 Summary of commands

The following button combinations must be pressed within 2 seconds.

Open 1x pressed	The doors open completely, according to the required opening or closing sequence.
Open 2x pressed	The doors open to the ventilation position, if the ventilation position has been set and the doors have been closed.
Open 3x pressed	The doors open to the walk-through positon, if the walk-through positon has been set and the doors have been closed.
Stop 1x pressed	The doors stop immediately during any movement.
Close 1x pressed	The doors close completely, according to the required opening or closing sequence.

11.7.4 Start-up

1. Start-up the unit using the three buttons (16, 17 and 18) on the control unit and signal LED or the Liberda operating element
   After turning on the unit, the red and green LEDs should flash alternately. If this does not happen, delete the “endpoints” using the following button combination:
   - Press and hold the middle button,
   - then press the top button, the bottom button, the top button and bottom button in this order,
   - then release the middle button.

   This sequence must be competed within five seconds, otherwise the entry is invalid.
   If the combination is correct, the endpoints are deleted and the red and green LEDs will flash alternately. You can always delete the endpoints this way and thereby reset the control if necessary.
   If the process fails after being repeated, check the LED code in the 'LED statuses' table.

2. During startup, the yellow LED indicates both the selected sash and the status of the locking system.
   - The yellow LED shows the currently selected sash.
   - When the selected door closed signal is active (but the lock is not yet engaged), the yellow LED flashes quickly.

3. When both the “door closed” signal and the “lock engaged” signal are active for the selected sash, the yellow LED is constantly on.

4. Pressing the middle button selects the necessary sash.
   First, select the “Master” sash (the sash with the motor address 0) by pressing the middle button once. This is indicated by the yellow LED flashing regularly once.
   Pressing the middle button again selects the “Slave with IO” (the sash with the motor address 1). This is indicated by the yellow LED flashing twice.
   Press the middle button repeatedly to cycle through all the sashes. The number of flashes corresponds to the selected sash. When the last sash has been selected and the middle button is pressed again, the selection reverts to the 'Master' sash.
   The required sash can always be selected in this order..

5. All sashes can be carefully moved into the desired open position using the direction buttons. To do this, first select the sash you want to move using the middle button, then carefully move it to the final open position. Then select the other sash and move it to the final open position.

   Important: The open position is always approached first.
   Attention:
   - Endpoints and power requirements are not yet known to the control unit.
   - Move the sashes very carefully to the final positions, because obstacle detection is NOT active during the start-up.
   - Only after both endpoints have been set, will the top button receive the OPEN function and the bottom button receive the CLOSE function.

6. Once all the sashes are in the open position, save the OPEN endpoint using the following button combination:
   - press and hold the middle button,
   - then press the top button once,
   - then release the middle button.

   The green LED will then light up.

7. Bring all sashes into the closed position in the same way. Take care to follow the current mechanical sequence and prevent any collisions.
   If the system is equipped with a Liberta biMR electric lock, pay attention to the yellow LED.:
   - The door is only considered closed for the purposes of control when the yellow LED is lit.

   If it is not active in the closed position, check this signal before continuing (see Locking, point 9).

8. Once all the sashes are in the closed position, save the CLOSE endpoint using the following button combination.:
   - press and hold the middle button,
   - then press the bottom button once,
   - then release the middle button.

   The green and red LEDs will flash simultaneously. Both endpoints are now defined and you can carry out the reference run to record the force requirement. The top button will only receive the OPEN function and the bottom button the CLOSE function once both endpoints have been set.

9. Press and hold the OPEN button until the door has opened and closed once, completing a full cycle. Keep the button pressed until the door is closed again and the red LED is no longer active. The green LED will then flash evenly to indicate that commissioning is complete.
   If the system is equipped with a Liberda biMR electric lock, the yellow LED will also light up.

12 Additional seetings

12.1 Set a ventilation position (only possible in Impulse-mode)

Open the doors to the desired ventilation position (between 50mm and 250 mm):
- Press and hold the middle button, then press the top button and hold for at least 5 seconds. When the red and green LEDs light up together, this means that the ventilation position has been saved.

The ventilation function is disabled when the ventilation position is set while the door is completely closed.

12.2 Set a walk-through-opening position (only possible in impulse mode)

Move the door to the desired walk-through-opening position (the opening width must be at least 251mm):
- Press and hold the middle button, then press the top button and hold for at least 5 seconds. When the red and green LEDs light up together, this means that the walk-through-opening position has been saved. The partially open position can be changed at any time using this method.

13 Maintenance

Although the individual components of the drive are maintenance-free, the entire door system must be cleaned regularly.
The tooth belt must be checked regularly, at least once a year, it must be free from any damage.
The door's functionality should be checked at least once a year.
Please refer to our operating manual for information on error codes and their meanings, as well as instructions on how to reset them.
After a long period of inactivity, or if the door has only been opened to the ventilation position for a long time, obstacle detection may be activated due to the altered operating conditions. If this occurs, please follow the instructions under “Current recording mode” on page 57.
Only original spare parts or technically equivalent products may be used to replace belts or components.
Maintenance and repairs may only be carried out by suitably qualified personnel. In any case, manufacturer personnel or those trained by the manufacturer are suitable for maintaining the drive.

14 Malfunctions

This section provides guidance for diagnosing malfunctions or instances where the drive system does not operate as specified.
Check the status LEDs on the control unit. The table below lists the LED states, their meanings and the recommended corrective actions.

14.1 Summary of the LED states

LED	Status / Blink sequence	Comment
Red + Green	Flashing alternately	The control unit is ready for operation, but the endpoints have not yet been set and commissioning is required. Operation is in deadman mode. Follow point 11, 'Start-up', on page 18.
Green	Lights up	OPEN endpoint set, continue commissioning, operation in deadman mode. Follow point 11 Start-Up, on page 19
Red + Green	Flashing together	Reference run with UP button, operation in deadman mode. Follow point 11 Start-Up, on page 19
Red + Green	Red flashing twice, Green flashing twice, …	OPEN and CLOSE endpoints set, continue setting opposite OPEN position. Follow point 11.3 Slide-Slide Door, on page 29; 11.6 Flying Telescopic Door (with three or more sashes), on page 44
Red + Green	Fast flashing together	Buttons of operation element are locked Detailed information on page 14 - 7 Additional functions in normal operation
Green	Flashing	Normal mode, 1x flash – Door Closed 3x flashes – Door Open 5x flashes – Door is neither closed nor open, or it is in ventialtion- or walk-through-position.
Yellow	Lights up	Door CLOSED and locked
Red + Green + Yellow	Red lights up, Green is flashing Yellow is flashing	Malfunction, green indicates it's code, yellow indicates which sash has a malfunction. Details under 14.2 Malfunction codes, on page 57
Red	Only red is flashing	Occurs when the power supply is restored; Details under 8 Behaviour after a power failure, on page 15
All	Dark	Press the stop button to activate the display; if it does not activate, check the power supply and the cable connections.

14.2 Malfunction codes

If a malfunction occurs, the relevant malfunction code is displayed via the LEDs. The red LED lights up permanently and the green LED flashes and displays a malfunction code. The yellow LED indicates which sash is affected.
If more than one malfunction occours, they will be displayed continuously, one after the other. The malfunction code is displayed for as long as the malfunction persists and the light does not go out after five seconds.

If the malfunction cannot be rectified using the procedure below, or if another problem occurs, contact the manufacturer (see section 17, 'Contact', on page 62).

malfunction code Number of flashes of the green LED	Description	Door behavior	Troubleshooting
2	Motor current limitation in closing direction	Door reverses the set value and stops	Check the path of the door for obstacles and remove them. If the fault persists, please follow the instructions under 14.3 Current recording mode on page 59
3	Motor current limitation in opening direction	Door stops	Check the path of the door for obstacles and remove them. If the fault persists, please follow the instructions under 14.3 Current recording mode on page 59
4	Overload	Door stops	Check the path of the door for obstructions and remove them. If the fault persists, contact the relevant maintenance company
5	No pulse from motor encoder	The door moves a little, then stops	Check encoder cable between motor and system control unit; contact maintenance company
6	No power consumption of the motor	Door stops	Check the motor cable
7	Malfunction in the lock	Door stops	The drive cannot open the lock, check that it is not switched off or locked.
8	Invalid sequence from motor encoder	Door stops	Check encoder cable between motor and operating element; Check cable shielding, contact service company
9	Sensor Obstacle at close range	Door reverses the set value and stops	Check the doorway for obstacles and remove them.
10	Obstacle sensor in opening direction	Door stops	Check the doorway for obstacles and remove them.
11	Malfunction of the motor drive	Door stops, operator goes into fault state	The motor control module is in fault status, press any button to reinitialize the motor control and rectify the fault; if this does not help, contact customer service.

12	Fault in sensor test	Door stops	Failure in sensor test operation, check the sensor and the sensor cable.
13	Motor Relay Test Error		Hardware error, in the DC module. contact service company.
14	Motor reverse polarity	Door stops	The strands of the motor cable are reversed.
15	STL Error		Hardware error(Processor Self test fault), contact service company.
16	Motor module no connection	Door stops, drive goes into fault state	Communication between logic module and motor module drive interrupted. Contact customer service.
17	IO module no connection	Door stops, drive goes into fault state	Communication between logic module and IO module interrupted. Contact customer service.
18	Fault during board initialization	Door stops, drive goes into fault state	Fault in the hardware initialization status. Reset the control unit to rectify the fault. If the fault persists, contact customer service.
19	Fault during parameter initialization	Door stops, drive goes into fault state	Fault in the parameter reading state. Reset the control unit to clear the fault. If the fault persists, contact customer service.
20	Fault in the Eeprom	Door stops, drive goes into fault state	Error in the eeprom read/write status. Reset the control unit to clear the fault. If the fault persists, contact customer service.
21	Motor Program Mismatch	This error indicates a firmware incompatibility between the DC motor module and the Logic module.	This typically occurs after a Logic firmware update, where the motor module firmware has not been updated accordingly. To resolve this issue, update the firmware of the DC motor module to ensure compatibility with the updated Logic module.
22	IO Program Mismatch	This error indicates a firmware incompatibility between the IO module and the Logic module.	It usually happens after a Logic firmware update, where the IO module firmware is no longer compatible. To fix the issue, update the firmware of the IO module to match the version required by the Logic module.
23	Motor Ballast Error	This error occurs when the ballast resistor in the DC motor is not functioning correctly.	Contact service support for further assistance.

After rectifying the malfunction, press and hold the middle button for 5 seconds to delete the code.

14.3 Current recording mode

If the green and red LEDs flash evenly together, the control unit is in the reference run phase to record the power requirement. The door can now only be operated in dead-man mode.

Changes in operating conditions (e.g., frozen seals, dirt in the tracks, mechanical resistance) can prevent the door from overcoming these obstacles.
If the door stops moving and displays a malfunction code indicating an obstacle, check the door for mechanical obstructions. If the door continues to show this code even after the obstacles have been removed, it must be retrained.

During the reference run, the control unit adapts to any significant changes in operating conditions.
Once the malfunction has been rectified, press any button to delete the code.

To enter learning mode (the green LED will flash):

- Press and hold the middle button, then press the top button five times.
- Release the middle button.

To complete the reference run:
Press and hold the top button until the door has opened and closed completely twice.
The green LED will flash evenly to confirm that the setting is complete.

14.4 Summary of Button combinations

Button comnination	Function	comments
Top button	Depening on door configuration	Details under point 11 Start-Up, on page 19
Middle button	Stops the door;	Additional functions depening on door configuration Details under point 11 Start-Up, on page 19
Bottom button	Depening on door configuration	Details under point 11 Start-Up, on page 19
Press and hold middle button, then press top, bottom, top, bottom button, then release the middle button	Reset of the the endpoints	Resets the Start-up procedure. Details under point 11 Start-Up, on page 19
Press and hold middle button, then press top or bottom button once, then release the middle button	Setting an endpoint during the Start-Up	Setting an endpoint during the Start-Up Details under point 11 Start-Up, on page 19
Press and hold middle button, then press top button once, then release the middle button	Setting the venitlation position	If the door is between 50 and 250 mm open Details under 12 Additional seetings, on page 54
	Setting the walk-through opening position	If the door is more than 205mm open. Details under 12 Additional seetings, on page 54
Press and hold middle button, then press bottom button once, then release the middle button	Set the reference point after power failure.	Details under 8.2 Behaviour without Liberda biMR GTS electric lock, on page 15
Press and hold middle button, then press top button 5x, then release the middle button	Start the reference run	Details under 14.3 Current recording mode, on page 59
press bottom button 5x	Set the reference point after power failure, if 2 button control is activated	Details under 8.2 Behaviour without Liberda biMR GTS electric lock, on page 15
Press middle button 10x	Lock/ unlock the buttons of the operation element.	Details under 7 Additional functions in normal operation, on page 14

14.5 Contact the support

If the malfunction cannot be solved by following the above described steps, contact the support.
To ensure a fast and successful response, please forward the following information:

- Type
- Serial number
- Manufacturer of the door
- Operating status

In the case of a malfunction, please provide the following information:

- The status of the various diagnostic status displays
- If a malfunction is indicated, the malfunction code
- An exact description of the malfunction

15 Disposal

At the end of its service life, the machine, along with all associated assemblies, components, and operating materials, must be **disposed of properly and in accordance with the relevant regulations.**
All applicable **European, national and local laws and regulations** must be observed.

If the machine contains electrical or electronic components, it is subject to **Directive 2012/19/EU (WEEE)** on waste electrical and electronic equipment.
Such components **must not be disposed of with unsorted municipal waste**, but must be delivered to a **separate collection system**.

Prior to disposal, the machine shall be dismantled into its **material and substance groups** (e.g. metals, plastics and electronic components) as far as is technically possible and permissible, and transferred to the appropriate **recycling or disposal systems**.

Operating and auxiliary materials (e.g. oils, greases, lubricants or cleaning agents) must be **disposed of in an environmentally sound manner,** in accordance with the applicable environmental regulations.
These substances must **not be released into the environment, waterways or sewage systems**.

Packaging materials must be separated by type and disposed of in accordance with applicable **recycling regulations**.

Proper disposal of the machine contributes to **environmental protection**, **hazard prevention**, and **natural resource conservation**.

16 Warranty

The product is warranted against defects in design, materials and workmanship for a period of thirty-six (36) months from the original purchase date. However, the local office or distributor may grant a different warranty period and refer to local terms of liability as defined in the Supply Contract.

LIBERDA Antriebstechnik GmbH is not responsible for:

- any costs resulting from failure to fulfil the installation, commissioning, repair, alteration or ambient conditions requirements specified in the documentation delivered with the unit and other relevant documentation.
- Equipment subjected to misuse, negligence or accidents.
- Equipment comprised of materials provided or designs stipulated by the purchaser.

Under no circumstances shall the manufacturer, its suppliers or subcontractors be liable for special, indirect, incidental or consequential damages, losses or penalties.

The warranty shall not extend to natural wear and tear, damage occurring after the transfer of risk due to faulty or negligent treatment, excessive use, unsuitable operating materials, faulty construction work, or special external influences not provided for in the contract. If the buyer or third parties carry out alterations or repairs improperly, these and the ensuing consequences shall not be covered by the warranty.

The existence of a defect does not entitle the buyer to remedy the defect themselves or have it remedied by third parties. Rather, the seller shall be given the opportunity to remedy the defect within a reasonable timeframe.

For defect rectification, products delivered by us must be sent to us carriage paid. We will not bear any costs related to the defect, such as assembly, disassembly, travel time, penalties or other compensation.

Any work or deliveries performed under warranty shall not extend the original warranty period for parts not affected thereby.

The technical data, information and specifications are valid at the time of printing. The manufacturer reserves the right to make modifications without prior notice.

Prohibition of Assignment
Claims against us shall not be assigned without our prior written consent.

Offsetting

Offsetting any of our claims with counterclaims of any kind shall be excluded unless such counterclaims have been recognised by us or established by a court.

Place of Jurisdiciton, Applicable Law

The applicable law shall be Austrian substantive law. The applicability of the United Nations Convention on Contracts for the International Sale of Goods (CISG) shall be excluded. The contract language is German.

The place of jurisdiction for all disputes arising directly or indirectly from the contract shall be the competent Austrian court at the seller's registered office. However, the seller shall be entitled to invoke the jurisdiction of any other court. Should any of the above provisions become invalid or unenforceable for any reason, the validity of the remaining provisions shall remain unaffected. In such a case, both contracting parties undertake to replace the invalid provision with a valid one whose content comes closest to the economic purpose of the invalid provision.

In the event of any inconsistency or conflict between the German and English versions of these terms and conditions, the German version shall prevail.

Status as of February 2018.

(All previous general or company-specific conditions of sale and delivery shall hereby lose their validity.)

17 Contact

Liberda Antriebstechnik GmbH

Phone: 0043 1 895 32 44

Fax: 0043 1 895 32 44 20

Email: support@liberda.eu

Support: 0043 676 44 059 21 (also available at weekends for urgent cases)

Ask about the manufacturers' offers for express, weekend and holiday service!

To ensure fast and successful support, please forward the following information:

- Type
- Serial number
- Manufacturer of the door
- Operating status
- In the case of a malfunction, please provide the following information:
  - The status of the various diagnostic status displays
  - If a malfunction is indicated, the malfunction code
  - An exact description of the malfunction