Door Drive
MIDI / SUPRA
Operating instructions

Door Drive MIDI / SUPRA

D823MGB 01.2004
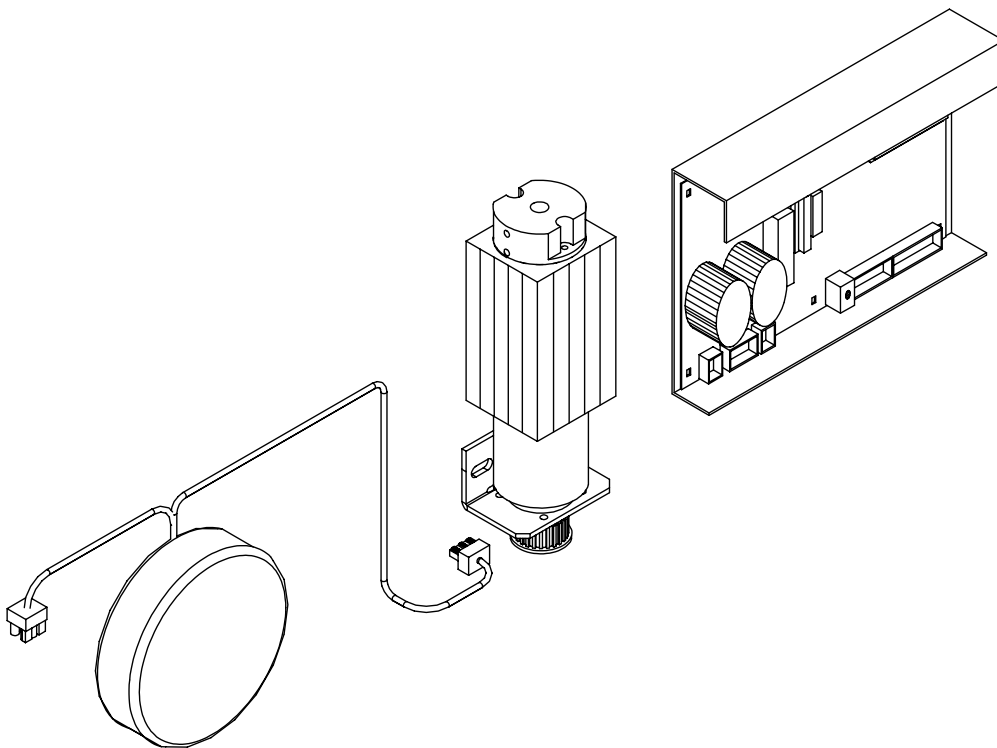

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**Door Drive
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1 General information prior to installation

1.1 Description and function

WHD SUPRA car door operators are used for mid and high duty elevators. The Drive can move panel masses up to 1200kg complete door package weight.

1.2 Liability and guarantee

This instruction handbook is written for people who are familiar with lift servicing and installation. Sufficient knowledge of lifts is essential. WITTUR accept no responsibility for damage caused by inproper handling, or for damage caused as a result of actions other than those stated in these operating instructions. The WITTUR guarantee may be voided if parts other than those described in these instructions are installed.

1.3 Safety precautions

WITTUR machine installation or repair engineers are chiefly responsible for the safe operation of machinery. It is essential to comply with and keep abreast of all safety rules and legal obligations in order to avoid personal / product damage during installation, maintenance and repair work.

Important safety advice and danger warnings are emphasized with the following symbols:

General danger warning

High danger risk warning (i.e. crushing edge, cutting edge etc.).

Risk of damage to machinery parts (i.e. due to incorrect installation, or such like).

Important information sign

These operating instructions belong with the whole installation and must be kept in a safe place at all times (i.e. drive room)

1.4 Related documents
- Catalog D823CDEGB
- Betriebsanleitung D823MDE

1.5 Preparation for operation

Before installation work begins, it is in your own interests to clarify what structural and spatial conditions are available for installation work, so that you can see which installation procedures should / must be carried out. Therefore it is recommended that all circumstances be taken into consideration, and to men-tally plan the installation sequence before any rash or badly planned work is carried out. Check the goods or parts for correct and full delivery upon receipt.

Installation tools

Following tools are needed:
- "T"-handled hexagon keys 4 mm, 5 mm and 6 mm
- Screw drivers (flat and crossheaded)

The drive unit is preadjusted at the factory. No other mechanical and electrical adjustments other mentioned in this instruction are required at site!

1.6 Delivery

Complete preassembled drive unit. Only to be stored in the original package (plastic wrap). The components must not be unpacked until the installation begins.

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2   Electronic assembly layout
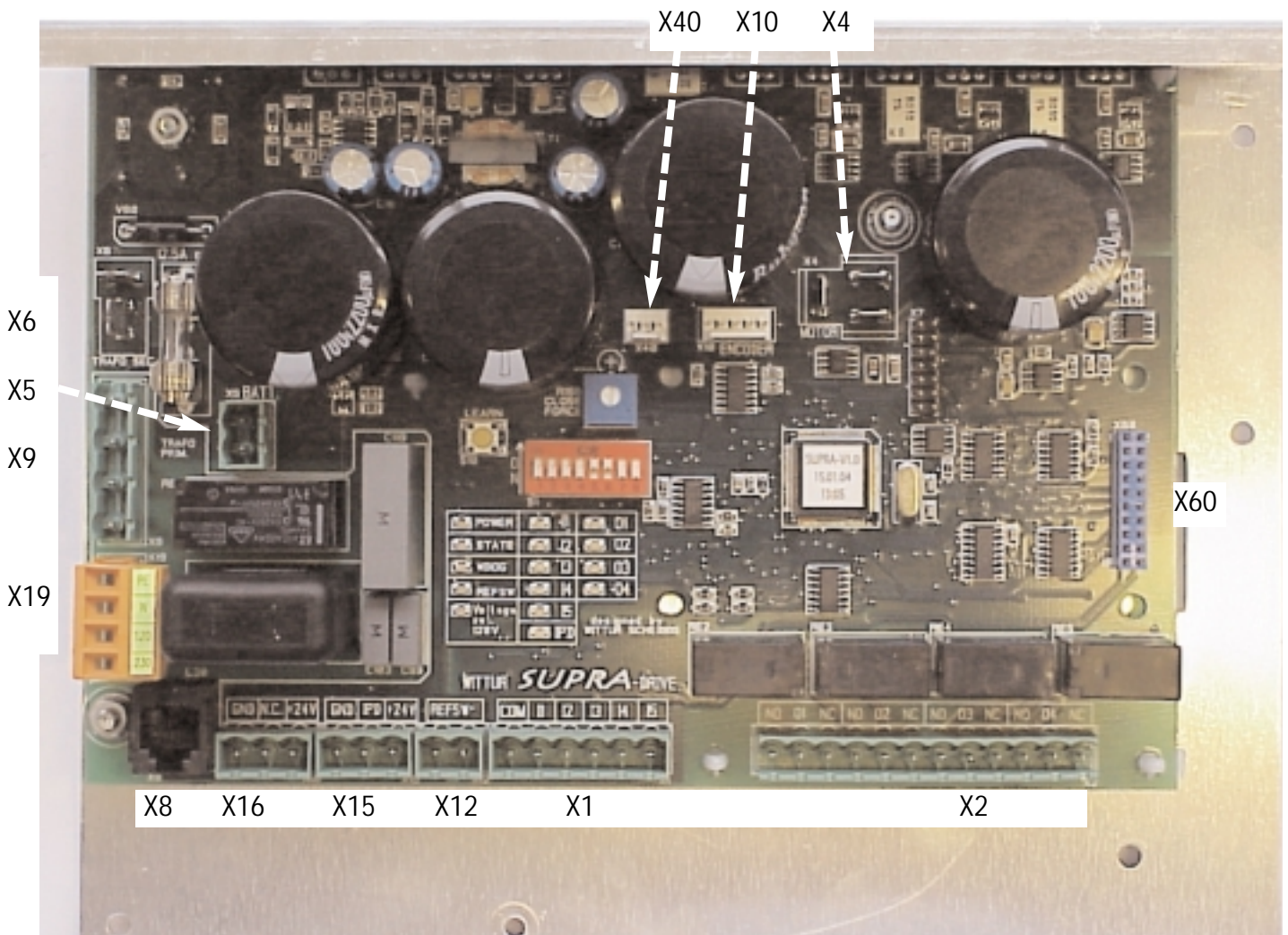
Plug description:

X1 - Inputs
X2 - Outputs
X4 - Motor
X5 - Battery supply (option)
X6 - Transformer secondary winding
X8 - RS485 interface for WPT (Wittur Programming Tool)
X9 - Transformer primary winding

X10 - Encoder
X12 - Reference switch
X15 - Photo Cell (Curtain of light) Receiver
X16 - Photo Cell (Curtain of light) Transmitter
X19 - Board line-in connector
X40 - Test drive buttons
X60 - Extension plug

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3   Commissioning

Door operators delivered directly from the factory are pre-adjusted.

3.1   Power Supply

- The WHD-MIDI / SUPRA-drive provides transformers for both different voltage ranges and can supply with 120Vac or 230Vac.

- Select the recommended fuse for the nominal voltage range, see table

Nominal Supply Volage Range:	120Vac	230Vac
Automatic fuse slow (in control panel)	6A	4A
Minimum cable required	1,5mm²	1mm²

- Line in supply is connected to a terminal plug (X19).
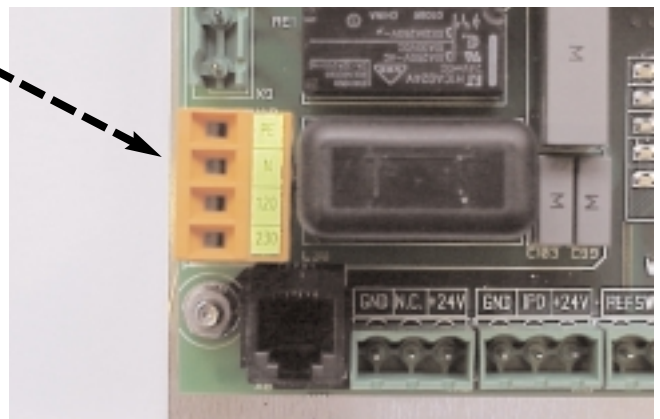
3.2   Safety Circuit

- The door contacts are prewired to a terminal plug D2.

- Safety contact ratings: Min. 5Vdc - Max. 250Vac 2A

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3.3   Preparation and learning of door parameters

1 The DIP switch settings has to be done according requirements, see chapter 7: "DIP-Switches".

2 Mount the reference switch so, that switch and magnet are opposite when the door panels are closed (the clearance between switch and magnet should be 3mm)

3mm
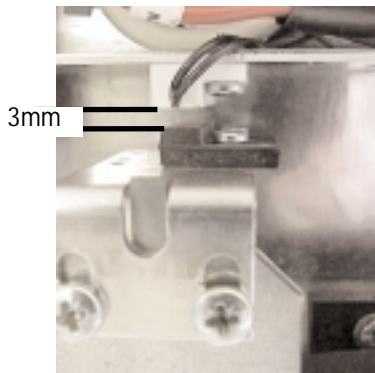
3 The DIP Switch S1/1 (Test Button Drive) must be activated.

4 Put the door panels in closed position. Check that the coupler is not opened (shaft door lock open).

⚠ Therefore open the door panels by hand and push them manually in closed positon. The panel must touch the close end buffer.

5 Switch power on.

⚙ Press the LEARN button IMMEDIATELY after power up.

6 Now the door must be driven in close direction by use of Test Drive Buttons

7 The door might now run in wrong direction in respect to command. Use that test drive button which drives the door in close direction and drive until door panels are fully closed (REF SWITCH LED must be on).

8 If the motor was running in wrong direction the electronic corrects the motor rotation direction automatically when the reference switch edge is detected and learning procedure is re-initialized.

⚠ Is no reference switch available the direction of the motor rotation must be changed by double click of the learn button if necessary. Continue with item 6 afterward.

9 During the next door movement cycles the learning of door width is done. When the STATE LED is off --> learning done.

⚠ Take care that the commands are available in end positions for more than one second, that the electronic has time enough to detect the mechanical end position.

10 The parameters are stored automatically after learning procedure.

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3.4   Driving the doors with the elevator controller

-   Connect the signals from the elevator controller to connector X1 and X2 of the door operator.

-   Refer to the project delivery documents for the wiring diagram between the elevator controller and door operator (see also connection diagram in chapter 9 -> MIDI or chapter 10 -> SUPRA).

-   Check if Test Button operation switch is OFF S1/1.

-   If the door is not at the reference switch (near by close end, door panels closed) in power up and CLOSE is active (connected with COMMON) it will move at low speed as long as the reference switch (in close end) is found.

-   After finding the reference switch or the mechanical close end the door drive will start with the next OPEN command in direction open with normal speed drive until the mechanical end is found.

-   Then the door will drive with normal speed in both directions.

-   Check that the safety devices (photo cells, light brrier or close force limiter) reopen the door (see DIP-switch description).

-   According to the DIP Switch adjustment (S1/2) the door is reopend by the elevator control or automatic by the door itself (see chapter 8.2).

3.5   Driving the doors by the service drive buttons

-   The Test Buttons only work when the Test button operation switch (S1/1) is active (the inputs I1 Open, .I2 Close, I3 Nudging, I4 and I5 are deactivated in this case)

-   Check that the door is moving open and close when the test buttons are pressed.

-   In this mode of operation the reopening of the door by a safety device is not activated. (enables the adjustment of the closing force).

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4 Adjustments always to be done

4.1 Closing Force Adjustment

An adjustment of too high closing force may cause serious injury to passengers. The max. allowed force can be found in the code valid for your country (EN81: max. 150N).

The adjustment must be done by use of a force measuring device.

Do not attempt to measure the force of a moving door, stop it first to avoid damage of the force measuring device!

- Open and close the door manually and check that there is no mechanical obstruction.

- Put a force measuring device between the door panels (center opening) or between door panel and slam post (side opening).
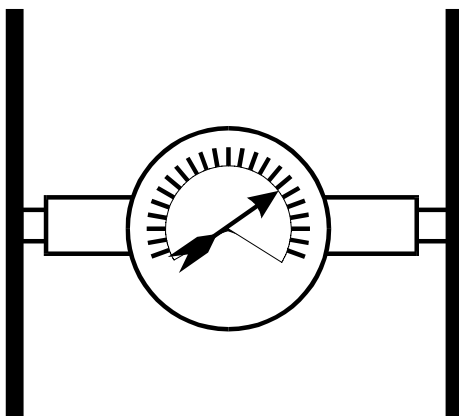
For centre opening the measuring device will show half of the actual close force. For side opening the measuring device will show the actual close force.

- Drive the door with the close button (or close command) to the close direction. The Test Buttons only function when the Test button operation switch (S1/1) is activated.

- The close command should be applied for less than 10sec period's, than remove the close command for a short time, before continue the adjustment procedure.

- Adjust the closing force according codes using potentiometer CLOSE FORCE. The Closing Force will increase by turning the potentiometer clockwise!
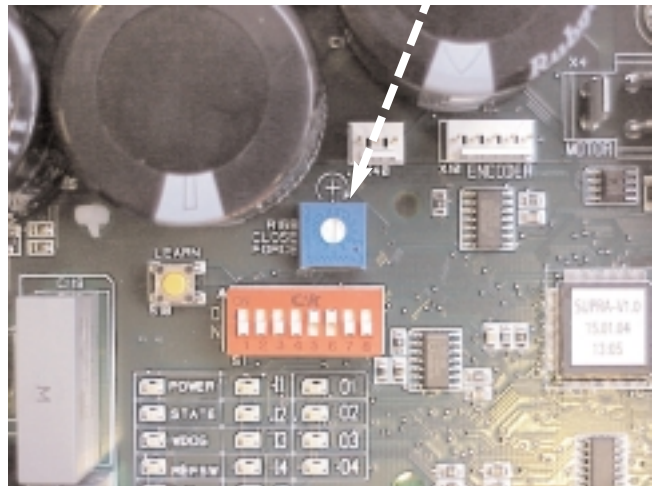
4.2 Adjustment of the speed

- The drive electronic offer to select one out of four different speed levels (for handicap elevators or other purpose).

- Look at DIP-SWITCH description (chapter 7).

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5   Description of LED´s
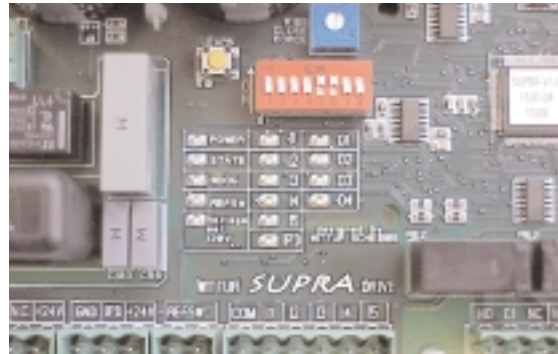
5.1   LED's Inputs

Name	LED leuchtet wenn
I1	Input 1 is connected to COM
I2	Input 2 is connected to COM
I3	Input 3 is connected to COM
I4	Input 4 is connected to COM
I5	Input 5 is connected to COM
IPD	Input Passenger-Protection Device (Photo cell, ...)

5.2   LED's Outputs

Name	LED illuminated if
O1	Output 1 relay is operated
O2	Output 2 relay is operated
O3	Output 3 relay is operated
O4	Output 4 relay is operated

5.3   Different LED's

Name	LED illuminated if
POWER	the power supply is switched on
WDOG	the microcontroller does not work
STATUS	Light: during start up and learning Flashes: if a error is detected Off: normal operation
REFSW	the door is in close end switch area
VOLTAGE SEL. 120VAC	120VAC supply voltage selected

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6   Electrical Interfaces

6.1   Inputs

The Inputs are activated if they are switched at COM.

Terminal	Symbol	Name of the terminal	Explanation
COM	COM	COMMON	Common line for I 1..4
I1	◁▷	OPEN	This command will drive the door in open direction until the open position is reached. Depending on the setting of DIP switch S1/8 the door is kept open by motor torque also without command.
I2	▷◁	CLOSE	This command will drive the door in close direction until close position is reached and coupler is opened. Depending on the setting of DIP switch S1/8 the door is kept closed by motor torque also without command
I3	NDG	NUDGING	Nudging input, puts the door to slow speed drive in close direction. Smoke sensitive devices like photo cell or light barrier (Input IPD) will be ignored.
I4	RSH	HIGH SPEED	By setting this input a higher speed can be selected. This input is active only when DIP switch S1/6 is switched OFF.
I5	EO	EMERCENY OPEN	The door opens if this input is set during the door is supplied by a emergency battery (terminal X5 BATT) and no line supply is available any more.

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6.2   Passenger protection device input

and supply

The Input is activated if put at GND.

Terminal	Symbol	Name of the terminal	Explanation
+24V	PH+	+24V	+24V DC supply for photo cell or curtain of light (max. 150mA)
IPD	REV	PHOTO CELL	Input for Photo Cell or curtain of light, light barrier or other passenger protection device
GND	PH-	GND	Ground for supply of photo cell or curtain of light (light barrier)
N.C.	L		Can be used as terminal for light barrier

6.3   Outputs

The outputs are relais where the 3 connections of the contacts are feed to the terminals.

(O1 to O4: COMMON = COM , normally open contact = NO, normally close contact = NC)

Terminal	Symbol	Name of the terminal	Explanation
O1	◁▷	OPEN END	The open end output indicates the fully open position of door panels.
O2	▷◁	CLOSE END	The close end output indicates the fully closed position of door panels
O3	REV	REOPEN	The Reopen output indicates if a reopen request, coming from photo cell or close force limiter is pending or an automatic re-open is done.
O4	POS	Position	This output is set when the door is opened wider than a certain position (trigger point can be adjusted by WPT, normally deactivated)

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7   DIP-Switches

	ON	OFF
S1/1	Test Button operation (buttons active)	Normal operation (command inputs on X1 active)
S1/2	Automatic reopen on obstruction or IPD (Reopen O3 is switched)	No automatic reopen (only Reopen O3 is switched)
S1/3	Electric shoe operation, command input always I1 (swing door mode)(*)	Normal operation (command inputs on X1 active)
S1/4	reduced motor torque is used	maximal possible motor torque is used
S1/5	Speed selection, binary coded, see figure	
S1/6		
S1/7	Open force limitation active	No open force limitation
S1/8	Automatic end keeping	Hold open/closed only on active open/close command

(*) Mode 1:
I1 = ON -> door opens
I1 = OFF -> door closes

COM
I1
I2
I3
Ix
/Open door
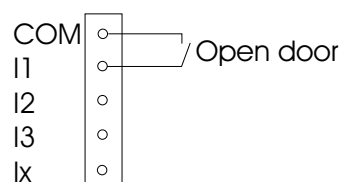
(*) Mode 2:
I1 = ON -> door closes
I1 = OFF -> door opens

COM
I1
I2
I3
Ix
/Close door

Speed adjustment

	MIN	SPEED		MAX
	1	2	3	4
SP 0	OFF	ON	OFF	ON
SP 1	OFF	OFF	ON	ON
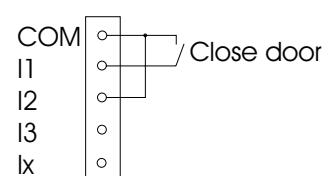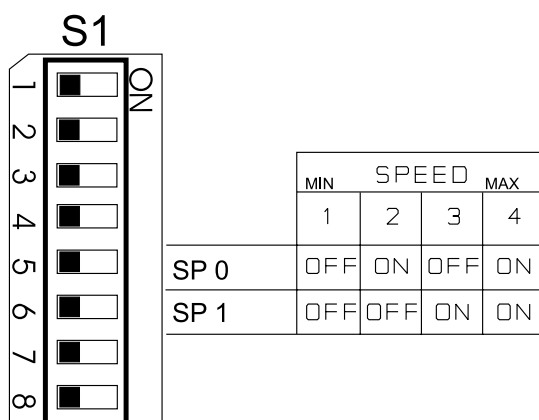
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8 Troubleshooting

There is a fault if the State LED is blinking. The faults can be read by WPT.

8.1 The door does not move

8.1.1 The door does not move at all

- Check that the power is ON. The POWER LED must light up if D1 is connected and the circuit breaker in the elevator control panel is ON

- Check WATCHDOG LED, switch OFF/ON or replace electronic unit in case it always lights up or blinks.

- Check that the motor and encoder wires are connected correctly (plug X4 and X10) and the motor is not overheated (<= 60° C).

- Check that the control panel is sending an Open or Close command (I1-I2/X1, Led I1, I2).

- Check if there is too high friction if door is moved manually. If the state LED flashes read the faults by using WPT, switch ON/OFF.

- Check if the the open force limitation is deactivated (S1/7 OFF).

8.1.2 The door does not open

- Check that the OPEN command LED I1 lits up when an open command is present (I1/X1 low).

- Check that the CLOSE command LED I2 does not light up (I2/X1 not low). A close command overrides the open command.

- Check that the landing door lock is not jammed.

- Check if the open force limitation is active (S1/7 ON) and the friction is too high.

8.1.3 The door does not close

- Check that the CLOSE command LED I2 lits up or the Input I2/X1 is switched on COM.

- The closing force may be too low (or friction too high). Turn CLOSE FORCE potentiometer slightly clockwise to increase the closing force, but watch the maximum allowed force!

8.1.4 The door only partly opens or closes

- Check that the open and close signal times (LEDs I1, I2) from the elevator controller are long enough. The door moves only as long as command is set.

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8.2   The door does not reopen

- If no automatic Re-open is selected (DIP Switch S1/2 is OFF):

    For reopening the elevator controller must remove the close command and activate the open command.

    To reopen the door the elevator controller must receive either a reopen request signal from the door electronics (REOPEN) or from an independently wired safety device (e.g. Photocell or Curtain of Light ...).

- If automatic Re-open is selected (DIP Switch S1/2 is ON):

    An automatical Re-open process is caused by the Input IPD or by the closing force limiter.

☞ Check the following reopen devices:

- Photocell or light cell (not defect or dirty).

- Closing force limiter (friction is not too high).

8.3   Faults causing reset or switch off (STATE LED is blinking)

- Power stage short circuit

- motor or encoder short circuit, open wires and/or missing signals.

- Undervoltage (supply voltage is measured and the power stage switches off if the voltage is too low).

- door mechanically blocked.

- Internal electronic fault

8.4   Faults decreasing performance of door

- Motor and/or power stage temperature too high. The software reduces the power of the motor (power stage). If temperature is nevertheless exceeding a higher limit, power stage is shut down for cooling down a certain time.

- Low voltage supply like battery drive or low line voltage supply.

- Reference switch faulty.

- Mechanical end not found (>=3,5m).

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9   Circuit diagram MIDI drive (DC motor)

230VAC
120VAC
N
PE

Line in

Encoder

M DC

Temperature Sensor

X19
X9
X4
X10

Transformer

X6

Note: contact must be opened during line voltage operation
X5

24V DC   **Emergency Battery Supply**   + −

12V   12V

X15
LB+ Protection Device Supply   +24V
REV Input Protection Device   IPD
LB- Protection Device Supply   GND

Receiver

X16
LB+ Protection Device Supply   +24V
L   (junction terminal for LSE)
LB- Protection Device Supply   GND

Transmitter

X12

Reference Switch

⇒ Signals from lift control   X1

Common   COM
use relay   Open (Input 1)   I1
for low   Close (Input 2)   I2
contact NDG Nudging (Input 3) I3
current RSH High Speed (Input 4) I4
         EO Emergency Open (Input 5) I5

⇐ Signals to lift control   X2

           Normally Open (Output 1)   NO
Open End   Common (Output 1)   O1
           Normally Closed (Output 1) NC

           Normally Open (Output 2)   NO
Close End Common (Output 2)   O2
           Normally Closed (Output 2) NC

           Normally Open (Output 3)   NO
REV Reopen Common (Output 3)   O3
           Normally Closed (Output 3) NC

           Normally Open (Output 4)   NO
POS Position Common (Output 4)   O4
           Normally Closed (Output 4) NC

NOTE: all these inputs and outputs are galvanic insulated

X40   **Test Button Operation**

X60   Expansion connector

X8   **WPT** (Optional)

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10   Wiring diagram SUPRA drive (PS motor)

Line In
230VAC
120VAC
N
PE

M PSM

Encoder

Temperature Sensor

X19
X9
X4
X10

Transformer

X6

Note: contact must be opened during line voltage operation
X5

24V DC   **Emergency Battery Supply**
12V   12V

X15
LB+   Protection Device Supply   +24V
Receiver   REV   Input Protection Device   IPD
LB-   Protection Device Supply   GND

X16
LB+   Protection Device Supply   +24V
Transmitter   L   (junction terminal for LSE)
LB-   Protection Device Supply   GND

X12

Reference Switch

Signals from lift control   X1
Common   COM
use relay for low contact current
Open (Input 1)   I1
Close (Input 2)   I2
NDG   Nudging (Input 3)   I3
RSH   High Speed (Input 4)   I4
EO   Emergency Open (Input 5)   I5

X40   **Test Button Operation**

Signals to lift control   X2
Normally Open (Output 1)   NO
Open End   Common (Output 1)   O1
Normally Closed (Output 1)   NC

X60
Expansion connector

Normally Open (Output 2)   NO
Close End   Common (Output 2)   O2
Normally Closed (Output 2)   NC

X8

Normally Open (Output 3)   NO
REV   Reopen   Common (Output 3)   O3
Normally Closed (Output 3)   NC

WPT
(Optional)

Normally Open (Output 4)   NO
POS   Position   Common (Output 4)   O4
Normally Closed (Output 4)   NC

NOTE: all these inputs and outputs are galvanic insulated

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11   Wittur Programming Tool Interface Software description

Valid for software revision starting from „WHD SUPRA Vx.x, dd.mm.jjjj"

11.1   Introduction

The WHD- MIDI / SUPRA-electronic is equipped with a serial communication interface RS 485 to watch/modify data stored in the electronic. Some data (for example the speed values) are stored in a memory which is independent from power supply, this memory is called EEPROM. For use of the Wittur programming Tool see Operating instructions D276Mxx.

⚠️ Wrong adjustments may damage the door mechanic.

11.2   Connecting the Wittur Programming Tool to the WHD SUPRA-electronic

The Programming Tool can be connected directly to the WHD MIDI / SUPRA board at the plug X8, there are no further adjustments are neccessary. Switch off the WPT before conecting to door drive.

11.3   Menu structure of Programming Tool


```
                                                    11.4.2                              11.4.1                                 11.4.6
        ┌─────────────────────────┐      ┌─────────────────────────┐      ┌─────────────────────────┐
        │ F1 Door Movement        │      │      LOG ON             │      │ F1 Counter              │
        │ F2 Coupler Movement     │      │                         │      │ F2 Timer                │
        │ F3 Reopen Time          │      └─────────────────────────┘      │ F3 Distance             │
        │ F4 Next        F8 Back  │                 11.4.1                │ F4 Next        F8 Back  │
        └─────────────────────────┘      ┌─────────────────────────┐      └─────────────────────────┘
                                          │ * WHD - xxxxx  DRIVE *  │                               11.4.7
                                    11.4.2│ * PS Motor        GB *  │      ┌─────────────────────────┐
        ┌─────────────────────────┐      │ SW  Vx.x,     d.mm.jjjj │      │ F1 Energy               │
        │ F1 Reset to Default     │      │ FPC#xxx       F4 Next   │      │ F2                      │
        │ F2                      │      └─────────────────────────┘      │ F3                      │
        │ F3                      │                 11.4.1                │ F4            F8 Back   │
        │ F4            F8 Back   │      ┌─────────────────────────┐      └─────────────────────────┘
        └─────────────────────────┘      │ ** MAIN MENU            │
                                    11.4.3│ F2 Profile Data         │
        ┌─────────────────────────┐      │ F3 Statistic            │
        │ F1 Open Speed           │      │ F4 Next                 │
        │ F2 Close Speed          │      └─────────────────────────┘
        │ F3 Nudging Speed        │                 11.4.8
        │ F4 Next        F8 Back  │      ┌─────────────────────────┐
        └─────────────────────────┘      │ F1 Error List           │
                                    11.4.4│ F2 Belt Position        │
        ┌─────────────────────────┐      │ F3 Log Out              │
        │ F1 Brake Parameter      │      │ F4            F8 Back   │
        │ F2 Position Out         │      └─────────────────────────┘
        │ F3 Acceleration         │
        │ F4            F8 Back   │      ┌─────────────────────────┐
        └─────────────────────────┘      │      LOG OUT            │
                                    11.4.5└─────────────────────────┘
        ┌─────────────────────────┐
        │ F1 Coupler Speed        │
        │ F2 Coupler Width        │
        │ F3                      │
        │ F4            F8 Back   │
        └─────────────────────────┘
```
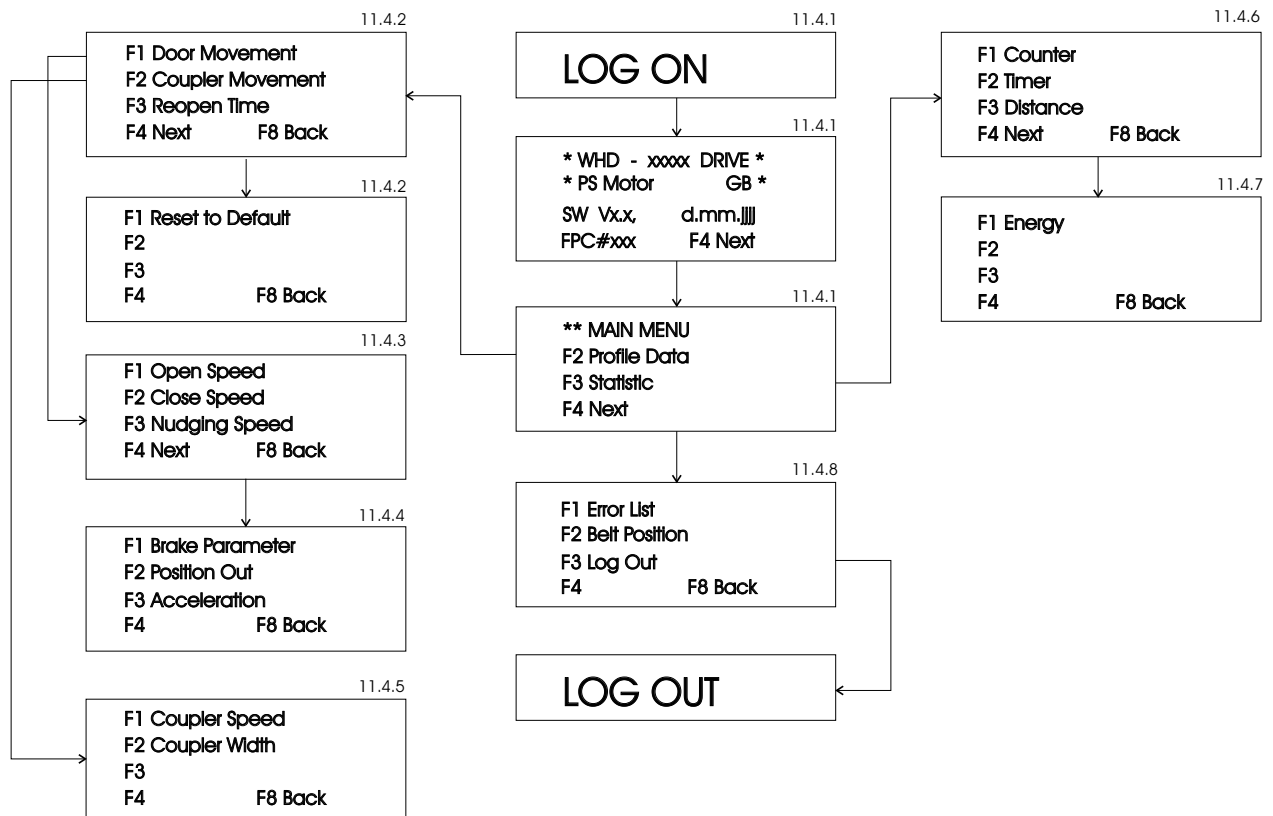
Door Drive
MIDI / SUPRA

Operating instructions

Blatt/*sheet*   D823MGB.018
Datum/*date*   01.03.2004
Stand/*version* 01.03.2004
Geprüft/*approved* WAT/FLE

11.4   Door adjustment with the Programming Tool

11.4.1 Login of the Programming Tool

- Press the 'ON'-button longer than 2 seconds until you can see the Log-in Display.

```
WPT software V1.3
19.09.2001, 11:15

Logging on .
```

- The screen after power on login shows: motor type, language, door drive software revision and date. The user language of WPT can be changed by pressing the function buttons F1..F7 on service tool.

- Languages available:

    'F1' GB .... English
    'F2' DE .... Deutsch
    'F3' IT .... Italiano
    'F4' FR .... Francais
    'F5' ES .... Espaniol
    'F6' TR .... Türkce
    'F7' XX .... Customer specific

- WHD MIDI (DC Motor)

```
* WHD – MIDI DRIVE *
* DC Motor      GB *
SW Vx.x,  dd.mm.jjjj
FPC#xxx      F8 Next
```

- WHD SUPRA (PS Motor)   Language

```
* WHD – SUPRA RRIVE*
* PS Motor      GB *
SW Vx.x,  dd.mm.jjjj
FPC#xxx      F8 Next
```

- After pressing 'F8' the initial menu screen appears.

```
** MAIN MENU
F2 Profile Data
F3 Statistic
F4 Next
```

- 'F1' shows a information screen

- Press 'F2' or 'F3' to select one of the menu items or use 'F4' to view additional screens

```
F1 Error List
F2 Belt Position
F3 Log Out
F4          F8 Back
```

- 'F8' jumps back to last screen.

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.019
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved*   WAT/FLE

11.4.2 'F2': Profile Data

```
F1 Door Movement
F2 Coupler Movement
F3 Reopen Time
F4          F8 Back
```

This menu allows you to call up 2 further cascading menus: 'F1' Door Movement (11.4.3) und 'F2' Coupler Movement (11.4.5).

11.4.2.1 'F3': Reopen Time

Reopen Time is the waiting period after the reopen in open end, before the door close again.

By pressing 'F3' the parameter Reopen Time can be watched and changed.

```
Reopen Time:
 0000.0 s

ENTER Ch.  F8 Back
```

To enter a new value press the number keys, after that press 'ENTER'. This value is taken over in a buffer and carried out.

```
Reopen Time:
 0001.5 s

ENTER Ch.  F8 Back
```

By leaving this menu with 'F8' you will be asked if the entered value shall be stored permanently to the memory.

```
Use changed Value?



YES/NO     F8 Back
```

By pressing the keys 'YES' / 'NO' the value can be used / rejected.

11.4.2 'F4': Next (Profile Data)

```
F1 Reset to Default
F2
F3
F4          F8 Back
```

The door parameter are resetted to its initial value by pressing the button 'F1'.

11.4.2.2 'F1': Reset to default

```
Reset to Default?



YES/NO     F8 Back
```

⚠ By pressing the 'YES' button all the adjusted parameters are cleared and overwritten by default values.

Before resetting the door electronic to default values the two items 3.3, clause 3 and 4 must be followed (manual closing of door panels without opening of coupler!).

After the "Reset to Default" is done, continue the start-up procedure like described in item 3.3 clause 6 to 10

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.020
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved*   WAT/FLE

11.4.3 'F1': Door Movement

```
F1 Open Speed
F2 Close Speed
F3 Nudging Speed
F4 Next    F8 Back
```

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key.

See chapter 11.4.2.1 how to enter values.

All these variables are stored in the EEPROM. Speed values for speed setting 1-3 are calculated from values of speed setting 4 by multiplying with fix constants (see chapter 12).

11.4.3.1 'F1 Open speed' - Open speed.

Top speed for open movement; speed setting 4.

11.4.3.2 'F2 Close speed' - Close speed

Top speed for close movement; speed setting 4.

11.4.3.3 'F3 Nudging speed' - Close speed for nudging

Top speed for close movement with nudging command; speed setting 4.

11.4.4 'F4': Next (Door Movement)

```
F1 Brake Parameter
F2 Position Out
F3 Acceleration
F4       F8 Back
```

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key.

See chapter 11.4.2.1 how to enter values.

This value is stored in the EEPROM.

11.4.4.1 'Brake Parameter'

Because of the adjustment of this parameter the delay and creep to the open / close end is influenced. The possible adjustment is '0'..'9', but the earliest brake is reached with parameter '0' and the latest delay is reached with parameter '9'.

11.4.4.2 'Position Out' Relay output

By entering this parameter the Position relay can be adjusted to switch at any door position. Standard adjustment is 0 (deactivated).

11.4.4.2 'Acceleration'

By adjusting this parameter the acceleration of door can be changed. The adjustment is done in m/sec².

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.021
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved* WAT/FLE

11.4.5 'F2': Coupler Movement

```
F1 Coupler Speed
F2 Coupler Width
F3
F4          F8 Back
```

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key.

How to enter values see in chapter 11.4.2.1

This value is stored in the EEPROM.

11.4.5.1 'F1 Coupler Speed'

Adjustment of the maximum speed in the coupler area. It is the same for open and close.

11.4.5.2 'F2 Coupler Width'

The parameter coupler width shows the distance which the belt is moving in close end without moving the door panels.

⚠️ If this value is changed the door is stopped until the learn button is pressed!

11.4.6 'F3': Statistic

```
F1 Counter
F2 Timer
F3 Distance
F4 Next    F8 Back
```

This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

11.4.6.1 'F1 Counter'

This counter shows the number of the driven door cycles.

11.4.6.2 'F2 Timer'

This counter show the power-on time of the door electronic.

11.4.6.3 'F3 Distance'

This counter measures the absolute movement of the drive belt in meter, but not the coupler movement. (= distance the rollers have moved)

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.022
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved* WAT/FLE

11.4.7 'F4': Next (Statistic)

```
F1 Energy
F2
F3
F4        F8 Back
```

This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

11.4.7.1 'F1 Energy'

This counter counts the electric energy feed to the drive in KWh.

11.4.8 'F4': Next (Main Menu)

```
F1 Error List
F2 Belt Position
F3 Log Out
F4        F8 Back
```

This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

11.4.8.1 'F1 Error List'

Errors are coded with numbers or letters. Failures displayed first are occured last. The Error List can be delete with the key 'F5' .

Possible Faults are:

'EE': EEprom writing or reading fault

'OC': Over current

'RS': Faulty reference switch

'IE': Internal software fault

'AP': Fault by positon counter, door width > 3,5m

'TS': Faulty temperature sensor

'NE':Encoder not connected

'CF': Closing force potentiometer defect

'ME': Fault by motor or encoder

'SS': Standstill fault, door is blocked

'TH': temperature of the electronic or motor too

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.023
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved*   WAT/FLE

high

'FE': is set during manual change of coupler movement parameter.

'ES': Fault by Encoder, signals out of limits

'BE': Electrical error during rotor angle detection, no current is flowing (Motor not connected)

'BM': Mechanical error during rotor angle detection (door is stalled, or rotation direction is wrong -> press lesrn button)

11.4.8.2   'F2 Belt Position'

actual position of the belt, positive- door panels open (then it is the door panel position), negative - coupler area

11.4.4.3   'F3 Log Out'

By pressing F3 the communication between door drive and WPT is stopped and the WITTUR Programming Tool switches off.

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.024
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved*   WAT/FLE

12   Default adjustment of WHD SUPRA software

The max. close (nudging) speed must always be set according codes. EN81 requires the energy limit of $E = 10J$ for closing ($E = 4J$ for nudging), this must be calculated by the formula

$$E = \frac{m\_equ * v\_belt^2}{2}$$

Because of the different speeds of door panels (e.g. for telesopic doors) the mass m_equ has to be calculated as virtual mass seen from belt.

$$m\_equ = m\_antr + \\ + \text{sum of } (m\_panel * (v\_panel / v\_belt)^2)$$

m_antr   virtual mass of operator
m_panel   mass of the panel
v_panel   speed of the panel
v_belt   speed of the belt

The operator mass m_operator is about 30kg (motor, hanger plate and coupler).

The table below shows the default parameters for different speed settings. Close and nudging speeds are calculated according EN81 energy limitation (Max. mass = m_equ).

If door panel mass m_equ is higher than Max. mass the next lower speed setting has to be selected, otherwise the door panels exceed the energy limit in closing direction.

The max. door speed setting is calculated with mass m_equ of 150kg. The close and nudging speed is then limited to the panel energy of 10J and 4J respectively.

This door times will also vary depending on:

- Door masses.

- Friction.

- Mechanical adjustements.

- Alignment of landing doors.

- User Interface SW parameters.

The time for coupler and lock movement is about 0.5 sec. in open and close direction (depends also on various different coupler types).

12.1   Default adjustments for MIDI drive

Speed adjust. (acc. EN81)	Max. mass [kg]	Open speed [mm/s]	Close speed [mm/s]	Nudging speed [mm/s]	Acceleration [mm/s²]
1	300	300	183	115	773
2	250	400	224	141	1159
3	200	500	283	179	1710
4	150	600	365	231	2281

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.025
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved*   WAT/FLE

12.2   Default adjustments for SUPRA drive

Speed adjust. (acc. EN81)	Max. mass [kg]	Open speed [mm/s]	Close speed [mm/s]	Nudging speed [mm/s]	Acceleration [mm/s²]
1	600	300	182	115	773
2	400	500	224	141	1159
3	250	700	283	179	1855
4	150	900	365	231	3091

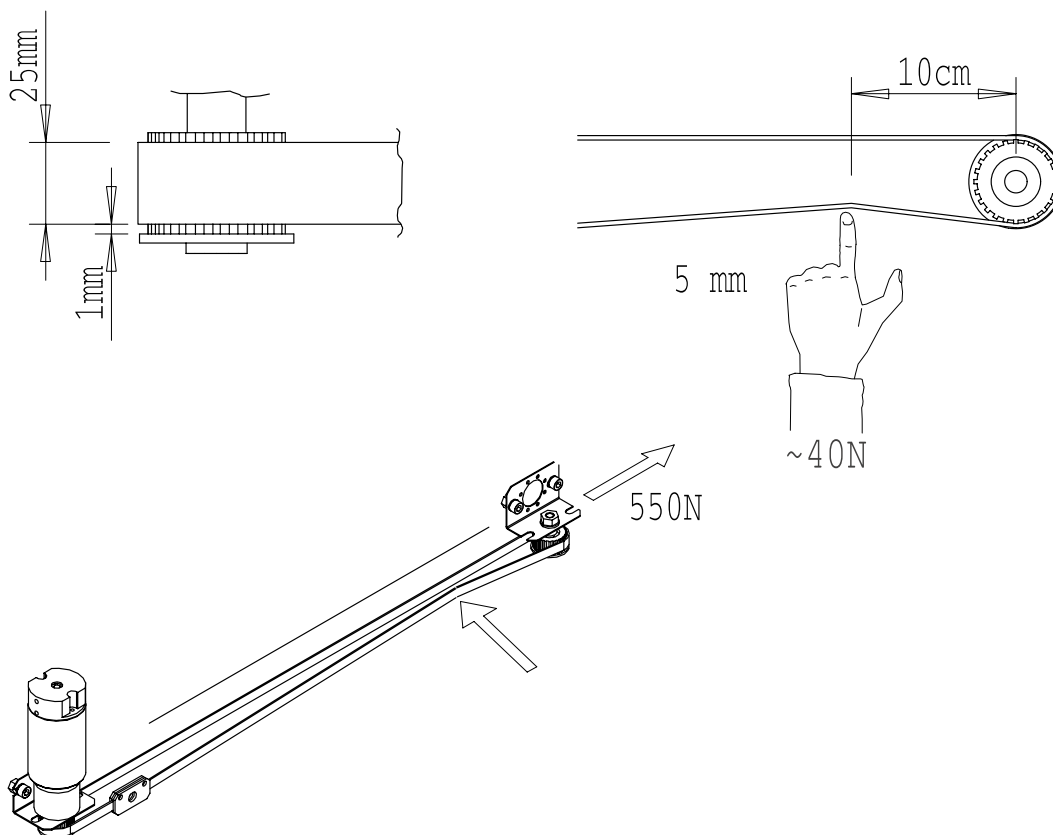**Door Drive**
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.026
Datum/*date*   01.03.2004
Stand/*version* 01.03.2004
Geprüft/*approved*   WAT/FLE

13   Drive belt

13.1   Belt tension

|	Standard	Measure
1	Should be free from dust	
2	Should be in good condition	
3	Push belt by the finger as in picture, belt must bend about	5 mm
4	Belt must be above the toothed wheel edge to prevent noise	nom 1 mm

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.027
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved*   WAT/FLE

13.2   Belt exchange

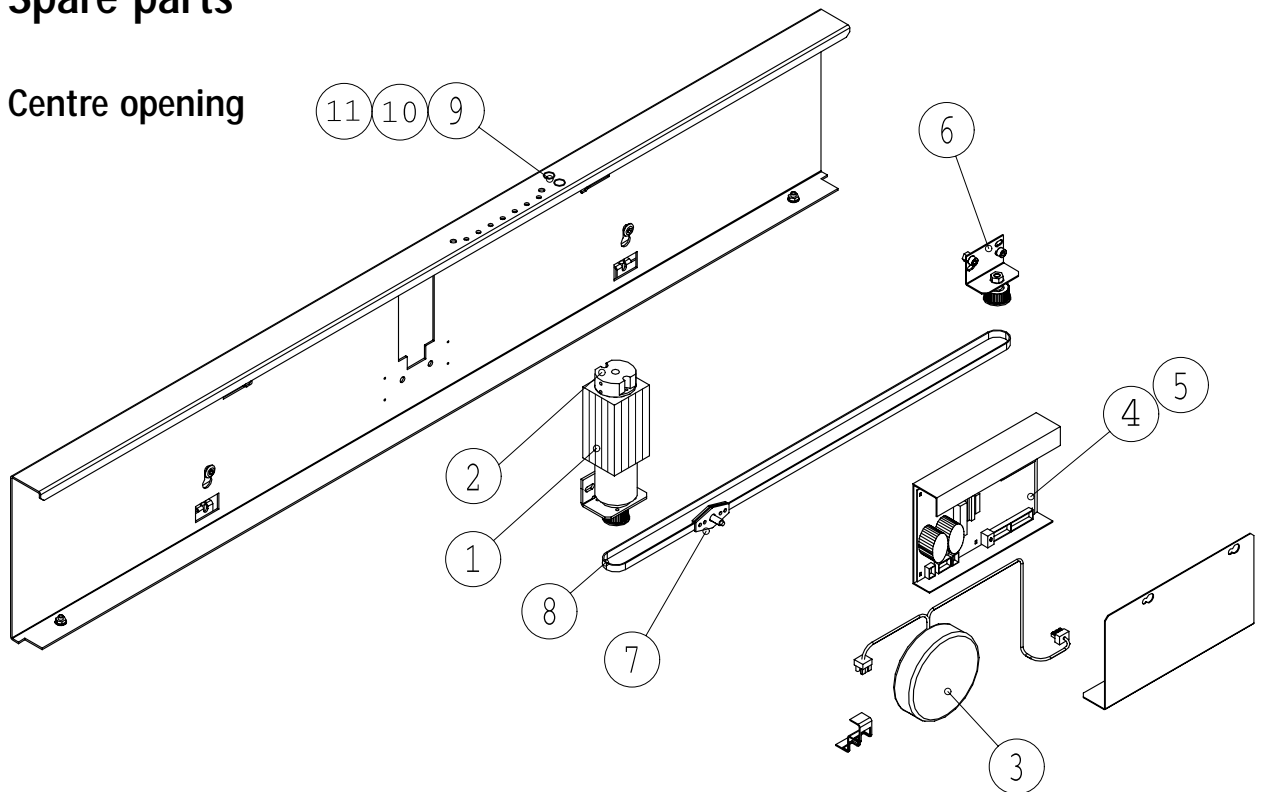| Step	Action
1.	Remove belt fixing (screws)
2.	Release old belt from belt fixing plastic
3.	Shorten the new belt according to old belt
4.	Assemble the new belt. Loosen the fixing screws of the diverting pulley and tighten the belt with a screw driver.

WITTUR
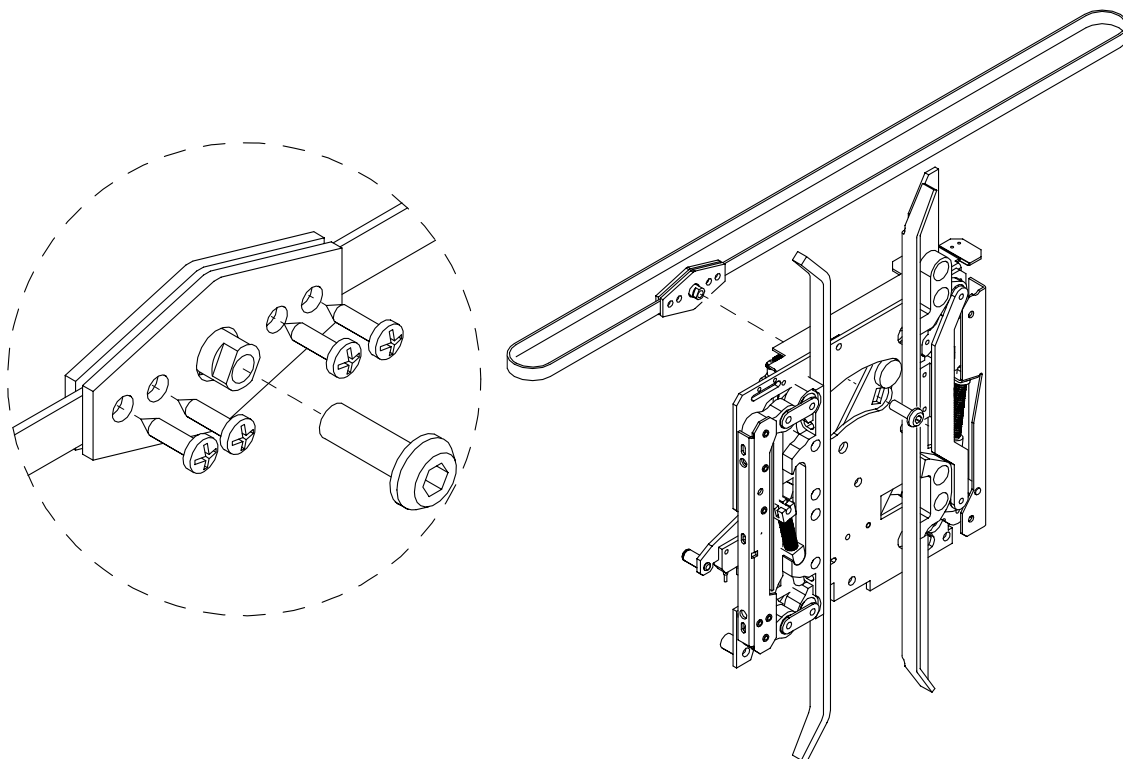
Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.028
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved* WAT/FLE

14   Spare parts

14.1   Centre opening

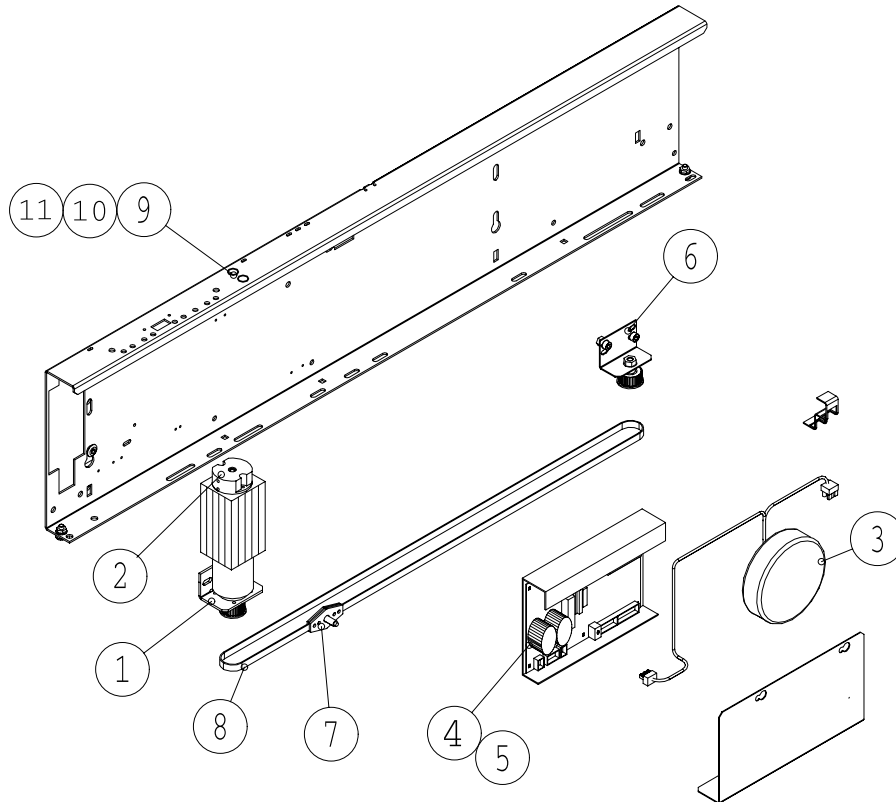| Pos.	Part number	Description	Remarks
1	602748 G03 602748 G04 601370 G03 601370 G04	Motor unit, coupler left, MIDI Motor unit, coupler right, MIDI Motor unit, coupler left, SUPRA Motor unit, coupler right, SUPRA	including Pos. 2
2	601800 G03	Encoder	
3	601805 G01	Transformer	
4	901160 G01	Electronic box	including plugs
	901909 G01	Spare plug set	X1, X2, X5, X12, X15, X16, X19, D2
5	601812 G01	Magnet switch	Hamlin, magnet 256825. Available separately
6	601275 G01	Diverting pulley set	Diverting belt pulley
7	601345 G01	Belt fixing	
8	601278 H02 601278 H03 601278 H04	Belt Belt Belt	Toothed belt, L=2250 AMDC1, AMDC3 L<=1550 Toothed belt, L=3900 AMDC3, AMDC5 L<=3050 Toothed belt, L=5450 AMDC LL<=4200
9	601800 G02	Test drive buttons	
10	601473 H01	Button cover "close"	
11	601473 H02	Button cover "open"	

WITTUR

Door Drive
MIDI / SUPRA
Operating instructions

Blatt/*sheet*   D823MGB.029
Datum/*date*   01.03.2004
Stand/*version*   01.03.2004
Geprüft/*approved*   WAT/FLE

14.2   Side opening

Pos.	Part number	Description	Remarks
1	602748 G03 602748 G04 601370 G03 601370 G04	Motor unit, left opening, MIDI Motor unit, right opening, MIDI Motor unit, left opening, SUPRA Motor unit, right opening, SUPRA	Einschließlich Pos. 2
2	601800 G03	Encoder	
3	601805 G01	Transformer	
4	901160 G01	Electronic box	including plugs
	901909 G01	Spare plug set	X1, X2, X5, X12, X15, X16, X19, D2
5	601812 G01	Magnet switch	Hamlin, magnet 256825. Available separately
6	601275 G01	Diverting pulley set	Diverting belt pulley
7	601345 G01	Belt fixing	
8	601278 H03 601278 H04	Belt Belt	Toothed belt, L=3900 AMDC0,2,4 LL<=1500 Toothed belt, L=5450 AMDC4 LL<=2100
9	601800 G02	Test drive buttons	
10	601473 H01	Button cover "close"	
11	601473 H02	Button cover "open"	