

KTC 2

Revolving Door  
Comfortline

Operating instructions

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” Translation of the original Operating Instructions”

## 1. For your safety

This documentation contains important information on the safe operation and installation. Please read these instructions carefully before using the system.

**It is important for your personal safety to follow all of the enclosed instructions.**

Using control elements, making adjustments or performing procedures that are not described in this documentation might cause electric shocks or result in danger due to electric voltage/current and/or danger due to mechanical incidents. Please keep these documents for further reference and hand them over to the person in charge in case the system is transferred to another party.

### Explanation of symbol



#### Warning

This symbol indicates dangers that might result in personal or material damage or even death.

### Intended use

The **KTC 2** is a two-winged revolving door. It comes with an integrated night closure and optional swinging door wings or an automatic sliding door. The wings can be equipped with showcases. The **KTC 2** is used exclusively as an entrance and/or exit between two separated areas. Usually, it is used to connect the outside with the inside of the building.

Due to the technical design and geometry of the system, there is practically no direct connection between the two separated areas. This will reduce draught and noises as well as control the traffic between these two areas.

With the corresponding design, the revolving door can be closed to block the entrance and exit.

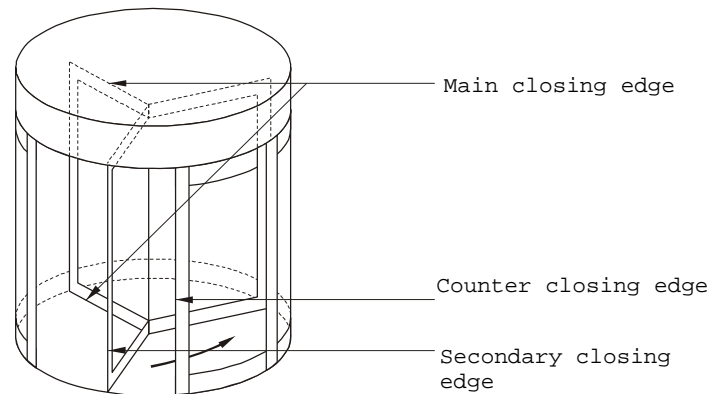
### Limitation of liability

The **KTC 2** may only be used according to its intended use. The **DORMA GmbH + Co. KG** will not accept any liability resulting from unauthorised modifications made to the **KTC 2**. **DORMA** will not assume any liability for the use of accessories that have not been approved by **DORMA**.

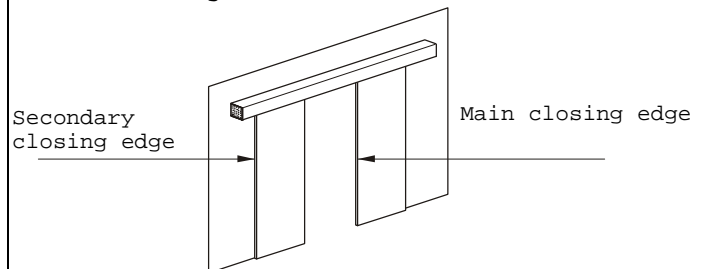
### Danger at closing edges

Automatic doors can pose risks of crushing, shearing and drawing-in at the various closing edges.

### At the revolving door



### At the sliding door





Depending on the structural conditions, door model and the provided safety equipment, residual risks (e.g. crushing, impact with limited force) can not be excluded.

### Safety during installation and commissioning

- Only qualified personnel are allowed to access the control unit.
- The working area is to be secured against unauthorised access. Falling items or tools might cause injuries.
- The revolving door is to be protected against water and other liquids.
- The installation method and fasteners such as screws and dowels have to be adequate for the structural conditions (steel construction, wood, concrete etc.).
- After the installation, the settings, the proper function of the revolving door and the safety equipment have to be checked for their proper condition.
- The earth conductor must be connected.
- The safety sensors must be connected (see commissioning instruction).
- The parts supplied separately such as program switch, emergency stop button, sensors and impulse transmitter (e.g. microwave detector, headband sensors) must be installed and connected.

### Safety instructions

 **Only trained personnel (electricians) may perform work on electrical systems.**

 **Dangerous electrical potential! May cause electrical shock and burn.**

- The use of HQ lamps/ fluorescent lamps is not permitted due to interference with the safety sensors.
- Prior to starting the work, de-energise the system and provide a safeguard to prevent an unintentional re-start.
- Repairs and work on the system are to be carried out exclusively by qualified personnel or authorised persons.
- The door system is no playground: Make sure the system is used properly and keep playing children away from the system.  
Do not allow children to play with the **KTC 2** or its control devices.
- Children may not enter the door system without the supervision by adults.
- Never insert metal objects into the openings of the **KTC 2**. Otherwise, there is a risk of an electrical shock
- Always use safety glass for the glass door wings.
- The turnstile may not be accelerated by hand.
- Do not enter the system with bulky objects. (Put the system into summer position and open the sliding door)
- Quickly enter the system but only if the opening is wide enough.
- Quickly leave the door as soon as the opening is sufficient.
- Follow the walking direction when within door system.
- Follow the rotation steadily and do not pause unnecessarily.
- Always keep body parts or objects out of the rotation zone of the turnstile.
- Make sure that there is sufficient area lighting.
- The distance between the lower edge of the wing and the floor cover is 40 mm. Even, gap-free floors are always to be preferred to other coverings such as footwear-cleaning mats. Soft floors such as carpets are not permissible. When using footwear-cleaning mats, they have to be secured to each other and to the floor. The bar spacing may not exceed 4mm.
- When establishing the rotational speed, consider who will use the system (e.g. also handicapped or older people). This might require you to reduce the speed set at the factory.
- During the operation, you are only allowed to stay inside the door system and in the direct vicinity of the

entrance and exit openings and only for the purpose of entering and exiting the two separated areas. (Except for trained personnel during maintenance work)

- Do not walk on the ceiling of the system during the operation.
- Electric discharge lamps may not be installed in the area of the door system as this might interfere with the infrared sensor system.
- In case of glass breakage of the ceiling or the door wings, the door system is to be immediately shut down and blocked accordingly. Immediately inform **DORMA** Service to deliver spare parts.

### Safety inspection and acceptance

The **KTC 2** is to be checked and, if applicable, to be maintained prior to the first commissioning and whenever required but at least once a year.

This may be done within the scope of the maintenance work.

The inspection and acceptance must be carried out by a person trained by **DORMA** in accordance with the test book.

The results are to be documented according to DIN 18650-2 and to be retained by the operator for at least one year.

**We recommend to place a maintenance contract with DORMA.**

### Maintenance

Maintenance work is to be performed exclusively by qualified personnel authorised by **DORMA**. The system is to be turned off during the maintenance and to be de-energised by switching off the fuse.

### Wear

The system contains wear parts that have to be checked in regular intervals and, if applicable, replaced.

A list of the wear parts can be made available upon request.

Only original parts may be used.

### Care

Cleaning may only be carried out in the absence of voltage.

The **KTC 2** can be cleaned using a moist cloth and conventional cleaning agents. Scrubbing agents should not be used as they might damage the surfaces.

Do not let water or other liquids get into the system.

Never insert metal objects into the openings of the **KTC 2**. Otherwise, there is a risk of an electrical shock.

### Recycling and disposal

Both the **KTC 2** and the packaging consist mainly of recyclable raw materials.

The **KTC 2** as well as the accessories do not belong into the household waste. Make sure that the old device and, if applicable, existing accessories are disposed properly. Please comply with the applicable national legal provisions.



## 2. Declaration of conformity

**DORMA GmbH + Co. KG**  
**DORMA Platz 1**  
**58256 Ennepetal**  
**Germany**

als verantwortlicher Hersteller der / as the responsible manufacturer for the / en tant que fabricant responsable de la

### **Karusselltüren** **KTC-2, KTV-2**

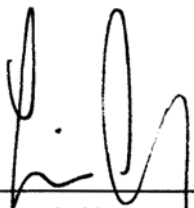
erklärt hiermit die Übereinstimmung der, nach oben genannter Bauart gefertigten, Anlagen mit den einschlägigen Bestimmungen folgender Richtlinien des Europäischen Parlaments und des Rates / hereby confirms that products/systems corresponding to the above type of construction comply with all the relevant requirements of the following directives of the European Parliament and of the Council / déclare par la présente la concordance des installations, fabriquées suivant le mode de construction mentionné ci-dessus, avec les dispositions pertinentes de sécurité des Directives du Parlement Européen et du Conseil:

- |                                     |  |  |
|-------------------------------------|--|--|
| <input checked="" type="checkbox"/> | 2006/95/EG                                       | Niederspannungsrichtlinie / Low Voltage Directive / Directive basse tension                          |
| <input type="checkbox"/>            | 89/106/EWG/EEC/CEE                               | Bauprodukte / Building products / Produits de construction   |
| <input checked="" type="checkbox"/> | 2004/108/EG                                      | Elektromagnetische Verträglichkeit / Electromagnetic compatibility / Compatibilité électromagnétique |
| <input checked="" type="checkbox"/> | 2006/42/EG <sup>1</sup><br>98/37/EG <sup>1</sup> | Maschinenrichtlinie / Machinery directive / Directive machine  |
- <sup>1</sup> Richtlinie 98/37/EG gilt bis zum 28.12.09 / Directive 98/37/EG is valid up to 28.12.09 / Directive 98/37/EG est en vigueur inclusivement d'ici le 28.12.09  
Richtlinie 2006/42/EG gilt ab dem 29.12.09 / Directive 2006/42/EG is valid from 29.12.09 / Directive 2006/42/EG est en vigueur à partir du 29.12.09

Die technischen Unterlagen sind erhältlich beim Manager Productcompliance unter: / the technical documentation can be obtained from the Manager Product Compliance at / les documents techniques peuvent être obtenus du Manager Product Compliance sous: [product.compliance@dorma.com](mailto:product.compliance@dorma.com)

Es wurden die produktrelevanten Abschnitte der folgenden Normen und Bestimmungen angewandt / In view of the relevant paragraphs for the product, this declaration is based on the following applied standards and rules / En tenant compte des paragraphes relatifs aux produits, cette déclaration est basée sur les suivantes normes et dispositions appliquées:

- |   |  |  |                                  |
|---|--|--|----------------------------------|
| Harmonisierte europäische Norm,<br>nationale Regel /<br>Harmonized European standards,<br>national rule /<br>Norme européenne harmonisée,<br>disposition nationale: | <input checked="" type="checkbox"/> EN 13849-1       | <input checked="" type="checkbox"/> EN 61000 - 3 - 2 | <input type="checkbox"/> EN 1154 |
|   | <input checked="" type="checkbox"/> EN ISO 14121-1   | <input checked="" type="checkbox"/> EN 61000 - 3 - 3 | <input type="checkbox"/> EN 1155 |
|   | <input checked="" type="checkbox"/> EN ISO 12100-1   | <input type="checkbox"/> EN 55014                    | <input type="checkbox"/> EN 1158 |
|   | <input type="checkbox"/> EN ISO 12100-2              | <input checked="" type="checkbox"/> EN 55022         | <input type="checkbox"/> EN 1125 |
|   | <input checked="" type="checkbox"/> BGR 232          | <input checked="" type="checkbox"/> EN 60335 - 1     | <input type="checkbox"/> EN 179  |
|   | <input checked="" type="checkbox"/> EN 61000 - 6 - 2 | <input type="checkbox"/> EN 60950 - 1                | <input type="checkbox"/>         |
| <input checked="" type="checkbox"/> EN 61000 - 6 - 3  | <input type="checkbox"/>                             | <input type="checkbox"/>                             |                                  |

  
 \_\_\_\_\_  
 L. Linde  
 Chief Operations Officer



Ennepetal, 03.08.09

### 3. Technical data

Power supply:	230 V AC; 50 - 60 Hz, +/- 6 %/10 %
Protection provided by the customer:	16 A
Power input:	
Standby operation:	56 W
Automatic operation with...	
... Positioning speed:	approx. 144 W
... Speed for handicapped persons:	approx. 174 W
... Walking speed:	approx. 324 W
Start-up power:	max. 500 W
The lighting of the system has not been considered.	
The operation of a system with an automatic sliding door requires an additional 26W.	
Lighting:	max. 50 0W (230 V AC); no HQ lamps or fluorescent lamps permitted
Motor:	AC motor with 600 W
Control voltage:	24 V DC for sensor system and control
Speed of rotation:	max. 750 mm/s
Concrete-footing ground:	min. 6 mm <sup>2</sup>
Approvals:	TÜV tested for type examination, CE
24VDC-power supply unit:	Input 230 V AC 50 Hz; Output: 24 V DC, 4,5 A (100 W)
Protective class:	IP 54
Application range:	-20 °C to +60 °C (optional -40 °C to +60 °C)
Noise level:	the A evaluated level is <70 dB(A)
Air humidity:	up to 90 %
Possible door diameter:	3.60 m, 4.20 m, 4.80 m or 5.40 m

### 4. System description

The **KTC 2** is a two-wing revolving door. It features an integrated night closure and a sliding door. The wings can be equipped with showcases. The door is driven by an AC motor, which is located inside the ceiling construction.

#### 4.1 Installation and commissioning

The installation and commissioning is to be performed by qualified personnel trained by DORMA.

For this, there are separate instructions available.

#### 4.2 General design:

- Drum walls made of curved glass panels lined with special rubber or aluminium sheet panels including insulation.
- Lateral posts with control elements and safety contact strips.
- Floor ring made of stainless steel angle profiles.
- Fixed ceiling made of an aluminium steel supporting structure.
- End caps made of metal sheet.
- Rotating ceiling with 2 integrated night closures.
- Turnstile including brush seals.
- Built-in lamps inside the false ceiling.
- Locking via an electromagnetic brake, or optionally using bolts (electromechanic locking).

#### 4.3 Drive unit

- AC motor with electromagnetic brake.
- Friction gear to transfer the torque.

#### 4.4 Control unit

- The control unit of the system is located inside the ceiling.

- This is a self-monitoring system, which immediately identifies defects or malfunctions and indicates them
- Microprocessor control unit to control all detectors, activators, motors etc.
- Safety module for a redundant monitoring of all safety commands.
- Activation of the motors through frequency inverter.
- Signal transmission from the fixed to the rotating part of the door via friction ring.
- Emergency power supply 230VAC (optional)
- Connected loads: 230V, 50Hz, approx. 1kW (+/-10%)

#### 4.5 Control and operator elements

- Program switch for the revolving door
- Program switch for the sliding door
- Key-switch button for electronic program switch
- Emergency stop button inside and outside.
- Handicapped button inside and outside.
- Motion sensor

#### 4.6 Sliding door

The centre part of the revolving door is made up of a manually operated or automatic sliding door with a locking contact. An automatic sliding door is powered by an ES200, which is activated by the control unit of the revolving door. During normal mode, the sliding door is closed and locked. Only if the revolving door is in the summer position or in the SAFE position with an inactive smoke and fire alarm input, it is possible to operate the sliding door using the sliding door program switch.

Following a power failure, the sliding door continues to operate in the previous operating mode.

As soon as the sliding door program switch changes to a position other than OFF, the program switch of the revolving door will be automatically set to SUMMER and stays in that position when the sliding door program switch is set back to OFF.

#### 4.7 Wiring

The following lines are to be laid by the customer and have to be designed for an operating peak voltage of up to 500V and in accordance with VDE 0812, VDE 0245 Part 202. Comply with the standards regarding cable type and/or its laying and grounding.

When laying the cables, make sure that any interference from other lines are eliminated (motors, high-frequency lighting etc.) For safety reasons, we recommend to use shielded data cables.

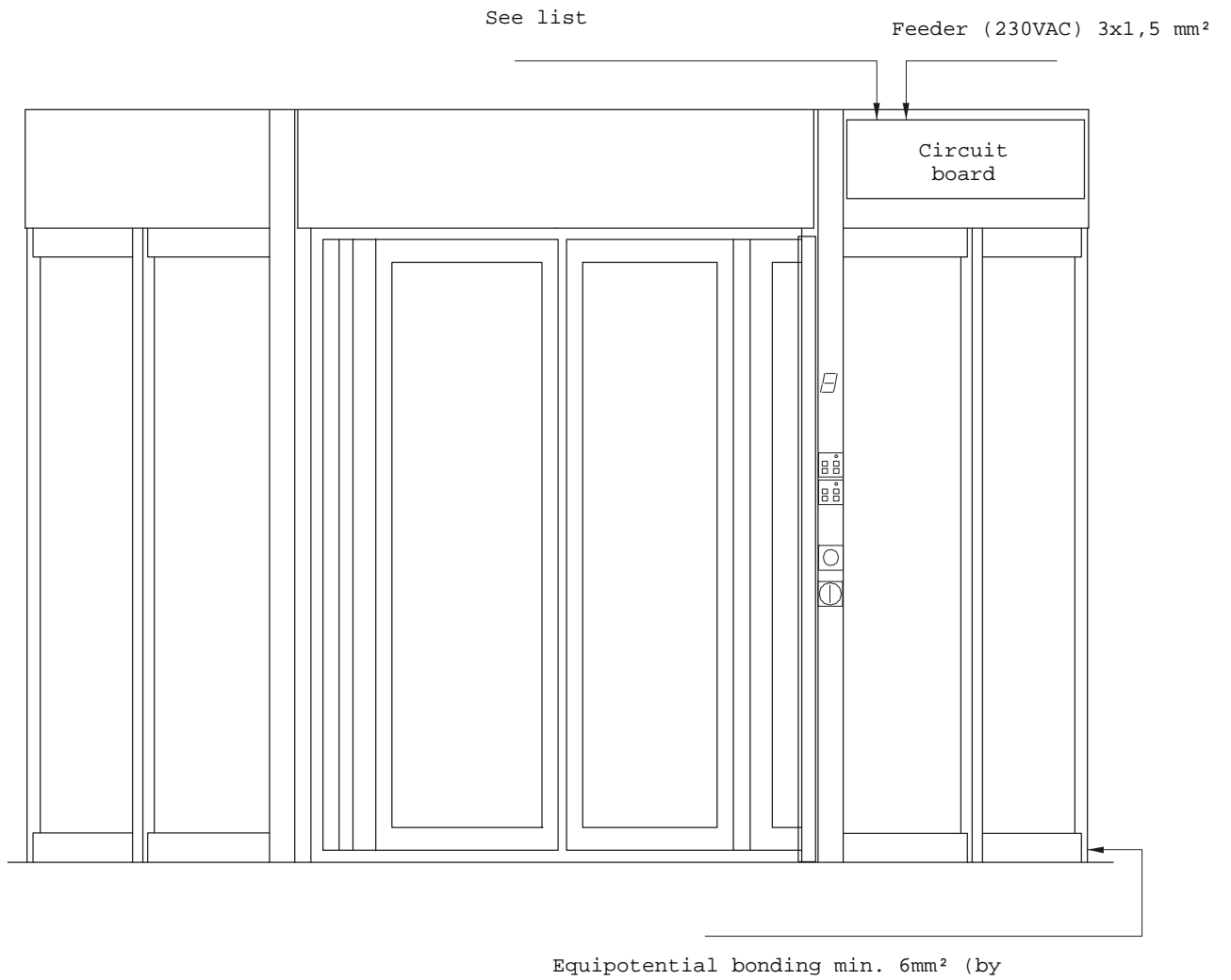
- Equipotential bonding 1x6mm<sup>2</sup> (at the door).
- Power supply 3x1,5mm<sup>2</sup> (L,N,PE), protection provided by the customer 16A

The following connections are available for external control elements (each 2 x 0,75mm<sup>2</sup>):

- Input "Externer Not-Halt-Schalter" (External emergency stop button)
- Ausgang "KT dreht mit Schrittgeschwindigkeit" (Revolving door operates at walking speed)
- Output "KT dreht mit Behindertengeschwindigkeit" (Revolving door operates at handicapped speed)
- Output "KT dreht mit Positioniergeschwindigkeit" (Revolving door operates at positioning speed)
- Output "Sicherheitssensor aktiviert" (Safety sensor activated)
- Input "Winterstellung" (Winter position)
- Input "Brandmeldung" (Fire alarm)
- Input "Entrauchung" (Smoke extraction)

**The lines for external control elements may not exceed 30 m!**

It is recommended to use shielded cable in order to prevent possible interferences from the outside.





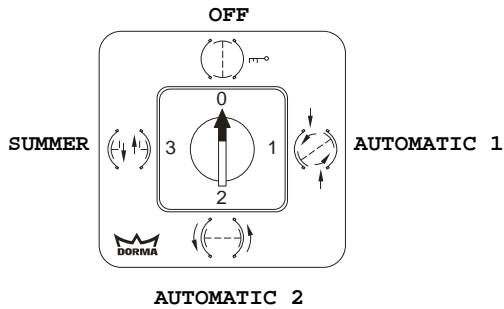
## 5. Operation

When operating the door, it is important to follow the safety instructions described under item 1.

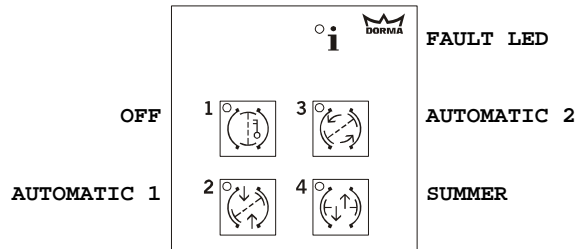
### 5.1 Program switch for the revolving door (PGS KT)

A program switch for operating the revolving door is affixed to the post on the side of the entrance. Optionally, this is either a standard or a DCW program switch (In case of an automatic sliding door, you will need the DCW program switch).

#### Standard program switch

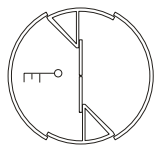


#### DCW program switch

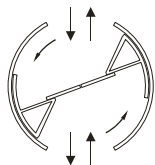


Both program switches can be used to select the following operating modes:

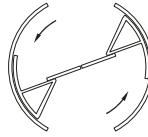
**OFF** The door moves at positioning speed into the locking position and stops. The electromagnetic brake will be activated. The lighting will be automatically turned off. The optional electromechanical bolt locking device will be activated. The optional sliding door drive is deactivated.



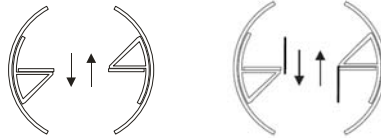
**Automatic 1** The locking device is unlocked. The lights are on. The optional sliding door drive unit is deactivated. In case it is activated by a motion detector, the door will accelerate to walking speed. After leaving the door area, the system will automatically switch to the positioning speed and will stop at the home position.



**Automatic 2** The locking device is unlocked. The lights are on. The optional sliding door drive unit is deactivated. The door constantly rotates at positioning speed. If activated, the door will accelerate to walking speed. After leaving the door area, the system will automatically switch to the positioning speed.



#### Summer



The door drives in the summer position (picture) and then you can use the sliding door, or the collapsable doorwings (depends from the choose Option)

#### Fault LED (only DCW program switch)

The fault LED goes on in case of an error. Depending on how serious the error is, the door will respond as follows:

- It stops immediately
- It moves at the positioning speed to the SAFE position
- It continues at the positioning speed

## 5.2 Program switch for the sliding door (PGS ST)

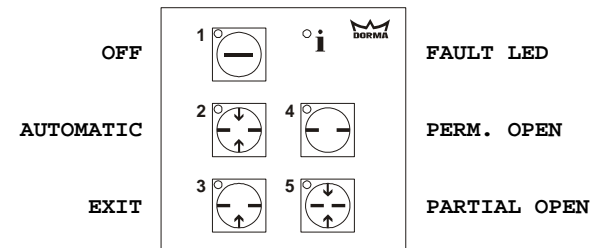
In normal mode, the automatic sliding door of the revolving door is closed and locked.

Only if the revolving door is in the summer position (PGS KT on SUMMER) or if it is in the SAFE position with an inactive smoke alarm input and inactive fire alarm input (figure on page 10), it is possible to operate the sliding door with the PGS ST.

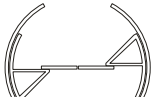
After a power failure, the sliding door will continue to operate in its previous operating mode.

As soon as the PGS ST switches into a position other than OFF, the PGS KT will be automatically set to SUMMER and remains in that position when the PGS ST is set back to OFF.

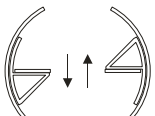
The following operating modes can be selected using the program switch:



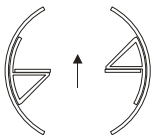
**OFF** The system can not be accessed. In case the system comes with a locking device, the door is locked mechanically.



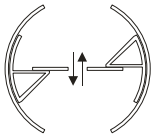
**AUTOMATIC** When a person or an object enters the detection range of the sensors, the door will open completely and then closes after expiry of the set hold-open time.



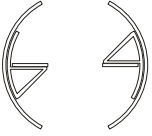
**EXIT** The external sensor is switched off, the door can only be activated from the inside (e.g. one-way function at closing time). When a person or an object enters the detection range of the internal sensor, the door opens completely and then closes on expiry of the set hold-open time.



**PARTIALOPEN** When a person or an object enters the detection range of the sensors, the door opens to the adjusted partial opening width and then closes after expiry of the set hold-open time.



**PERMANENTOPEN** The door opens completely at low (creep) speed and remains in that position until another function has been set.



## Setting the partial opening width of the sliding door

- 1st Close the door
- 2nd Turn the program switch into the PERMANENTOPEN position.
  - The door opens at low (creep) speed.
- 3rd Once the door has reached the desired partial opening width, turn the program switch into the PARTIALOPEN position.
  - The door stops.
  - The control unit saves this position as a new partial opening width.
  - The door closes.

## 5.3 Operating the DCW program switch

The program switches are protected by a code that can be set individually. This code can be protected via an additional key switch/key switch button.

### Changing the operating mode

- 1st Unlock the program switch by inputting a code.  
Factory setting = 1 - 1 - 1 - 1.  
The last 4 digits are evaluated. In case an incorrect code was entered, re-enter the code.
  - The program switch is unlocked when the LED for the current operating mode is blinking.
- 2nd Set the operating mode via pressing a key.
  - The LED of the selected operating mode is on.
  - 1 minute after the last keypress, the program switch will be automatically locked again.

### Changing the code

- 1st Unlock the program switch.
- 2nd Press the keys 1 and 2 simultaneously for about 3 seconds.
  - The LEDs for the keys 1 to 4 are on.
- 3rd Enter the new 4 digit code.  
The code has always 4 digits and is limited to the numbers 1 to 4. The numbers can be entered in any sequence and also used twice.
  - The light of a LED goes out after each input.
  - As soon as all four digits have been entered, the new code will be active (all LEDs are off).
  - The current operating mode is now indicated again.

#### Unlocking via key switch/key switch button

If the program switch is to be unlocked by using the key switch/key switch button, the code must be changed to

0 - 0 - 0 - 0.

1st Unlock program switch using the key switch/key switch button.

2nd Press the keys 1 and 2 simultaneously for approx. 6 seconds.

- After 3 seconds, the LEDs 1 to 4 will go on, after 6 seconds they will go off again.
- The current operating mode is indicated.
- The code is now set to 0 - 0 - 0 - 0 and the program switch can only be unlocked by using the key switch/key switch button.

In case the code is to be changed again, the program switch must be unlocked using the key switch /key switch button. The code is changed as described under

#### Changing the code.

##### Note:

In case the key switch/key switch button was used to unlock the program switch, please note the following.

- In case the key switch is used to unlock the program switch, the program switch will be automatically locked 1 minute after the last keypress.
- In case the key switch is used to unlock the program switch, the key switch must also be used to lock the program switch.

#### Measures to be taken if the code can not be remembered

1st Turn the power off.

2nd Press keys 1 and 3 and keep them pressed.

3rd Turn on the power.

4th Release the keys.

- The code is now preset to 1 - 1 - 1 - 1
- The program switch is in the OFF position.

#### Power failure

After a power failure, the program switch is set to the last active operating mode.

#### Failure

A malfunction is indicated by the red LED on the program switch. The blinking frequency indicates the error code.

Example: 1x blinking =error 1, 2x blinking =error 2 etc.

After a short pause, the blinking will be repeated.

#### 5.4 Handicapped key button

This key button is located inside and outside of the door post. When activating the handicapped key button in the operating modes "Automatic 1 or 2", the speed of the door will be reduced to handicapped speed for one rotation. If afterwards no impulse transmitter is active, the system will automatically reset the speed to the positioning speed.

#### 5.5 Motion sensor (radar or PIR)

This sensor is located in or on the end cap. When the motion sensor is activated, the door system will accelerate to walking speed.

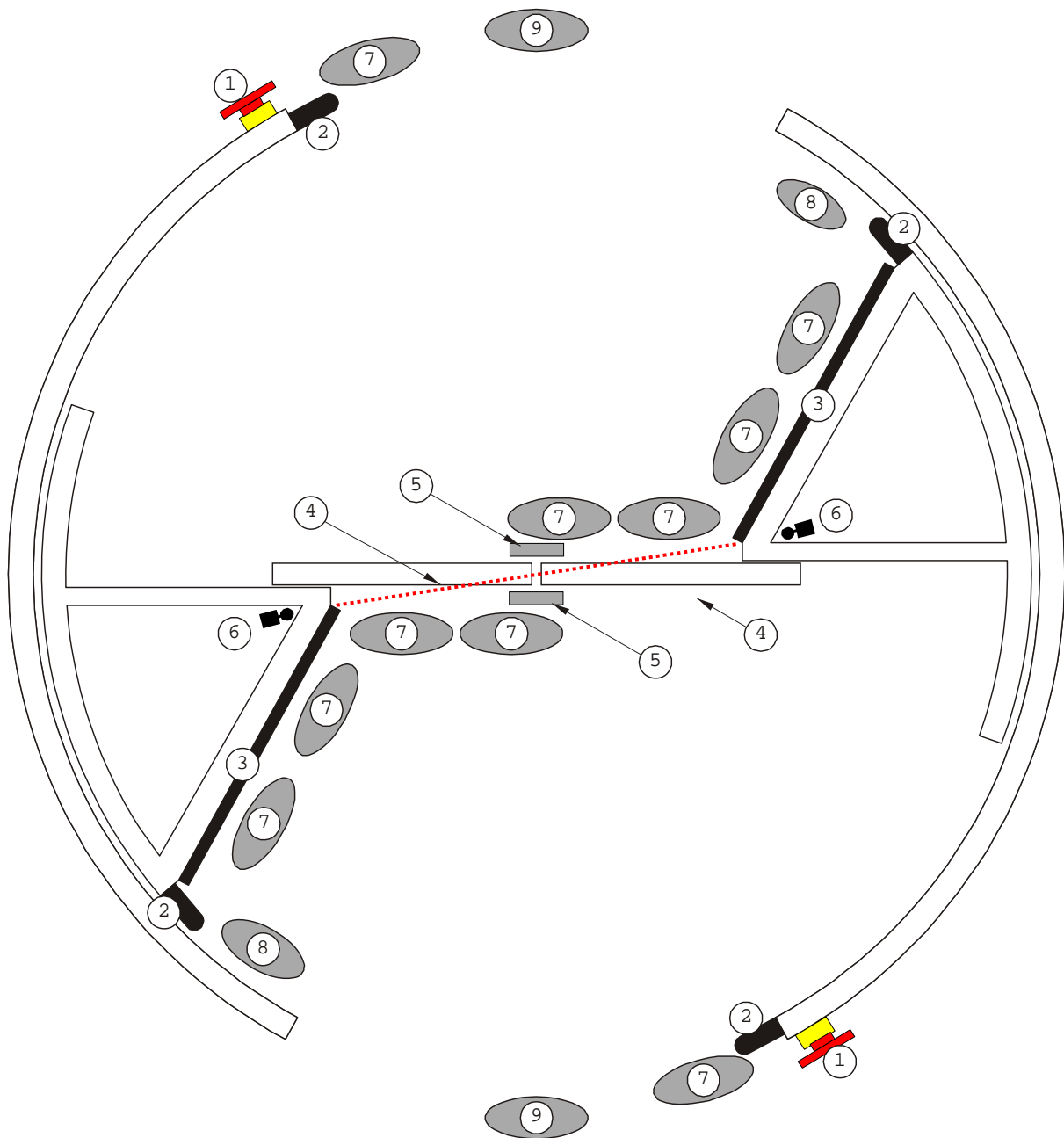
#### 5.6 External Seven segment display (optional)

An optional seven segment display is mounted to the inner post, which is statically controlled via 4 inputs. It can display 16 different characters.

## 6. Safety equipment / sensors

- 1 Emergency stop button
- 2 Safety contact strip vertical
- 3 Safety contact strip horizontal
- 4 Light barrier
- 5 Safety sensor system sliding door
- 6 Door travel limit switch showcase
- 7 Presence sensor
- 8 Forward motion sensor
- 9 Motion sensor

The door position shown here is the **SAFE Position**



### 6.1 Emergency stop button

This button is located inside and outside on the door post. The door system can be stopped at any time by activating the emergency stop button.

After an adjustable time, the system can be freely rotated with a force of >220 N. To restart the system, you will need to unlock the emergency stop button.

### 6.2 Safety contact strips

Safety contact strips are attached to all the places relevant for the safety of people.

The system will stop immediately as soon as people are detected.

After releasing the activation of the safety contact strips, the system will start again on its own.

### 6.3 Light barrier

These contact-free sensors are mounted in the foot area horizontally between door wing and strut. As soon as people are detected, the system will stop immediately. After leaving the safety zone, the system will restart on its own.

### 6.4 Door travel limit switch showcase

These switches are located on the showcase doors.

The system will stop immediately if the door wings are opened during the rotation. In order to restart the system, the door wings must be returned to their home position.

### 6.5 Presence sensors

These contact-free sensors are used to detect obstacles at the main closing edges.

If an obstacle has been detected at least 500 mm before the wing has reached the post, the system will immediately switch to handicapped speed until the wing moves into the drum wall or the sensors no longer detect an obstacle. The control unit tests the sensors for their function 2 times during each rotation. In case of a failure of the sensors, the system moves into the SAFE position at positioning speed.

### 6.6 Speed monitoring

The speed of KTC-type revolving doors may not exceed 750 mm/seconds, which is why the KTC 2 can not be set to a faster speed. When setting the speed, the types of users have to be considered (e. g. also handicapped or older people). A knocking over of people has to be prevented. This may require reducing the speed of 600 mm/seconds set at the factory.

### 6.7 Locking contact for the sliding door

In case the sliding door opens during the rotation of the revolving door, the system will move into the Safe position at positioning speed. To restart the system, the sliding door must be closed.

### 6.8 Control unit

The control unit of the system is located in the ceiling. This is a self-monitoring system, which immediately identifies

defects or malfunctions of the system, then responds and displays them.

## 7. Status/error messages

### 7.1 Fault output

A potential-free change-over on the control unit is available (OUT 5) to indicate malfunctions or defects. The max. contact load is 230VAC/2A or 24VDC/1A. The following functions are monitored and indicated in case of a fault:

- Drive unit
- Safety contact strips
- Limit switch
- Proximity sensor
- Power supply
- Function active infrared sensors
- Feedback safety circuit
- Control functions
- Electromechanical locking device
- Speed

### 7.2 External seven segments indicator

This display is located at the inner right main posts and indicates errors/statuses of the system.

These are the following:

Indicator	Message
0	No message
1	No teach-in drive has been performed
2	Low battery, emergency power module
3	Locking device defect
4	Headband sensors active
5	Safety strips / door travel switch active
6	Safety strips door post active
7	Door wing sensor rotating part active
8	Emergency stop active
9	Light barrier rotating part active
A	Motion sensor active
B	System moves too fast
C	Sliding door not closed
D	Error sensor test
E	Zero-point sensor not OK.
F	Program switch can not be read

In case several of those conditions occur simultaneously, they will be indicated cyclically.

## 8. Lighting

Depending on the configuration, the lighting can be turned on and off either automatically (factory setting) or by using an external switch (optionally):


### 8.1 Automatic

The lighting is turned off only if the door is permanently in the locking position and locked.

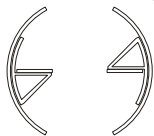
### 8.2 External switch

The lighting can be turned on and off via an optional radio system (integrated transmitter and receiver).

## 9. Optional equipment

 This work has to be performed by a DORMA service technician.

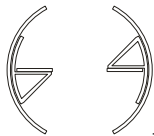
### 9.1 Fire alarm



When the fire alarm input has been activated in the program switch positions AUTO 1/2 and SUMMER, the revolving door will move into the SAFE position. After reaching the

SAFE position, the program switch for the sliding door indicates PERMANENTOPEN; the automatic sliding door opens and stays open. If this input is deactivated, the control unit operates in the previously set operating mode.

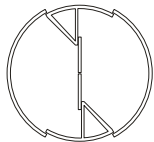
### 9.2 Smoke extraction



When the smoke extraction input is activated, the revolving door will move into the SAFE position in any program switch position. After

reaching the Safe position, the program switch for the sliding door will indicate PERMANENTOPEN; the automatic sliding door opens and stays open. In case this input has been deactivated, the control unit continues to operate in the previously set operating mode.

### 9.3 Winter mode

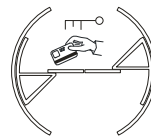


When the system is changed to winter mode, the behaviour of the system is not changed. Only the home position is changed.

The winter mode can be activated as follows:

- By inserting a bridge on the IN15 module contact IN13 inside the fixed part.
- By installing a switch / key button bridge on the IN15 module contact IN13 inside the fixed part.

### 9.4 Night/Bank



Possible with the following setting:

Switch the program switch for the revolving door to the SUMMER position and the program switch for the sliding door to the OFF position. In case of a night /bank impulse, the sliding door will open, then closes and locks after expiry of the set hold-open time.

A night bank impulse can be triggered via the inner radar/ motion sensor or an external contact.

### 9.5 Locking message

A locking message can be requested. It is available as a 24V DC signal and can be connected to an alarm system or building control system for an evaluation. Terminal OUT6 inside the fixed part.

The message and/or the locking device has no VDS certification.

### 9.6 Key switch button

The key switch buttons can be used to unlock the electronic program switches for the revolving door and sliding door. As long as the key switch button is activated, the electronic program switches are unlocked.

### 9.7 USV

In case the door is equipped with an optional USV system, it will move into the SAFE position during a power failure or a malfunction of the USV in automatic mode. If equipped with an automatic sliding door, the sliding door will open. In case of a manual sliding door, it can be opened by hand after the unlocking.

## 10. Output functions

In the fixed part of the revolving door system, the following signals are output via potential-free contacts (change-over). Max. load 24VDC/500mA (Ohm).

### 10.1 Activation of a warm air curtain (O2:OUT 11)

The contact is active as long as the revolving door is moving automatically or the sliding door is opened. Otherwise, it will be deactivated after the expiry of the adjustable stopping time: "warm air curtain" (0s - 600s).

### 10.2 Fault output (O2:OUT 5)

This contact is active for the duration of a fault in the revolving door system, otherwise it is inactive.

### 10.3 Locking function (O2:OUT 6)

This contact is active in case the revolving door system is locked, otherwise it is inactive.

#### 10.4 Walking speed (O2:OUT 12)

This contact is active when the revolving door is moving at walking speed, otherwise it is inactive.

#### 10.5 Handicapped speed (O2:OUT 13)

This contact is active when the revolving door is moving at handicapped speed, otherwise it is inactive.

#### 10.6 Positioning speed (O2:OUT 14)

This contact is active when the revolving door is moving at positioning speed, otherwise it is inactive.

#### 10.7 Safety sensor active (O2:OUT 15)

This contact is active if an obstacle has been detected by at least one safety sensor, otherwise it is inactive.

### 11. Power failure

In case the door is not equipped with an USV, it is possible to move the door manually in case of a power failure with a force of <220 N.

#### 11.1 Manual unlocking of the automatic bolt locking device

- 1st Switch the program switch into the OFF position.
- 2nd Activate the emergency stop button.
- 3rd Screw the emergency release rod into the threaded hole of the locking bolt.
- 4th Press the emergency release rod towards the inside.
- 5th Unscrew the emergency release rod.
  - The door can now be put into operation.

#### 11.2 Start-up after power failure

After a power failure, the system will turn on again in the set operating mode.

### 12. Maintenance and care

In order to ensure the safe operation and long-term reliability, the system must be serviced on a regular basis according to the specifications of an expert (DORMA Service).

- Prior to the first commissioning and whenever required but at least once a year, the system is to be inspected and, if applicable, to be serviced by an expert according to the specifications in the "Service instructions".
- The inspection and acceptance must be performed in accordance with the test book by a person trained and certified by DORMA. (For the maintenance, there is a separate manual available "Maintenance KTC 2".)
- The results are to be documented in accordance with DIN 18650-2 and to be retained by the operator for at least 1 year.
- In order to prevent unintended movements during the cleaning of the system, press the emergency stop button.

**We recommend to place a maintenance contract with DORMA.**

**The system contains wear parts which must be replaced or exchanged in the course of the maintenance. You will find a list of wear parts in the maintenance instructions.**

#### 12.1 Daily care

- The floor in the area of the rotating part must be kept clean. Parts dragged along (pebbles etc.) may affect the operational reliability of the system or damage the system.
- Dirt might accumulate under the profile of the footwear-cleaning mats. This will lift the mat resulting in failures of the door system and possibly pose a risk to the user. This is to be prevented by cleaning it accordingly (if needed, remove the mat and clean the mat support) and by properly fixing the footwear-cleaning mats.
- The motion sensors, light sensors in and at the door system must be free of dust and dirt.
- Check the safety equipment.
- Check the control functions including emergency stop.
- Clean the surface of the false ceiling in order to prevent a scratching of the surface by small parts carried along.

#### 12.2 Weekly care

- Clean surfaces:
- Treat glass surfaces with conventional glass cleaners.

- Wipe rust-free surfaces with corresponding cleaning agents and do not use a scratching cloth.
- Clean pulverised surfaces using water and soap.
- Clean anodised surfaces with non-alkaline cleaning agents (PH value between 5.5 and 7).
- Vacuum/clean brushes.

### 12.3 Yearly Maintenance check-up

A separate manual is available for the maintenance (Maintenance KTC 2 MS9).

## 13. Faults

In case of faults occurring on the system, you can call the following hotline:

**Phone: 0180- 5240246**

(Mo. - Fr. 7. 00 am - 09.00 pm and Sa. 7.00 am -05.00 pm)

In case the door does not revolve, please check the following:

- Is power available?
- Has the emergency stop button been released?
- Is the program switch in the correct position?
- Are the door wings in the home position?
- Are the door wings blocked by objects?
- Are the light sensors free of dust and dirt?
- Are there any foreign particles in the door?
- Has a connected fire alarm system been triggered?

After checking the above items, the revolving door should operate normally. If the function still does not work, please read the error on the diagnosis report (7 segments indicator at the door post) and notify a service technician by calling the above number.

In case the fault indicator at the program switch is on, the fault can be reset and acknowledged using the program switch.

Put the program switch into the OFF position and keep it in this position for approx. 3 seconds. Then put the program switch again to AUTO 1 or 2.

The fault indication should go off and the door can be operated normally.

### Acknowledgement

**Cold start** The control unit is turned off and then on again. By doing so, the errors can be acknowledged.

**manual** The program switch is switched to OFF from any program switch position except OFF.

**external** Automatic acknowledgement via a handheld command due to elimination of the cause of the error



#### 14. Operation fault current breakers (FI-circuit breaker)



**Danger!**

The drive controls of the control unit feature an internal power rectifier. A DC ground fault leakage in AC and pulsed systems may prevent tripping of AC sensitive fault current breakers and void the protective function for all equipment linked up with such fault current breakers.

For the protection of people (DIN VDE 0100), we recommend 25A/300mA AC sensitive fault current circuit breaker.

Install fault current circuit breaker only between supply mains and door system.

#### 15. Overload protection

By default, the KTC 2 is equipped with a device protection.

However, **DORMA** still recommends to take further protective measures in order to achieve a degree of protection as high as possible.

#### 16. List for maintenance and troubleshooting by the operator




[www.dorma.com](http://www.dorma.com)

058 017 45532, 09/11, Änderungen vorbehalten

DORMA GmbH + Co. KG  
DORMA Platz 1  
D-58256 Ennepetal  
Tel. +49 2333/793-0  
Fax +49 2333/793-4950