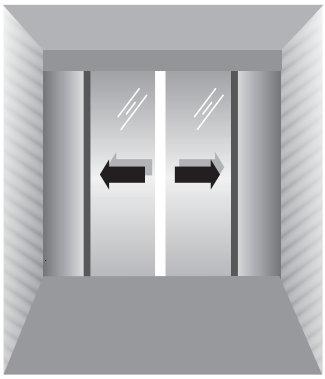
TORMAX
AUTOMATIC

T-1366 e 9.3.21
Translation of the original
instructions for use



Instructions for Use

For Automatic Sliding Doors in
Escape and Rescue Routes with Drive

TORMAX iMotion® 2202.FRW Sliding Door Drive
TORMAX iMotion® 2202.A-R Sliding Door Drive
TORMAX iMotion® 2301.FRW Sliding Door Drive
TORMAX iMotion® 2302.R Sliding Door Drive
TORMAX iMotion® 2302.R-HB Sliding Door Drive
TORMAX iMotion® 2401.FRW Sliding Door Drive

⚠ Safety instructions in chapter 2 must be observed!

Contents

First edition: 5.10, Update: 3.11, 7.11, 2.14, 7.15, 8.16, 8.18, 3.21

1 General Information

1.1 Target Groups

- Operator of the automatic door. The operator is the person responsible for the operation and maintenance of the system.
- Persons instructed by the operator to carry out certain duties, for example the servicing and maintenance of the automatic sliding door.

1.2 Storage and Forwarding of the Manual

- Store the instructions for use in the vicinity of the automatic door system.
- If the manual has become illegible due to constant usage, reorder the instructions or download from: www.tormax.com
- When the door system is transferred or resaled to a third party, pass the following documents to the new owner:

– This instructions for use

– Documentation concerning modification and repair work

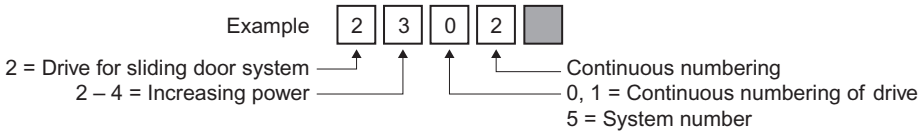
– Proof of the regular examinations ➞ System test book T-879

1.3 Area of Application

Product name door system	Product name door drive
TORMAX iMotion 2252.A-R Sliding Door System	TORMAX iMotion 2202.A-R Sliding Door Drive
TORMAX iMotion 2352.R Sliding Door System	TORMAX iMotion 2302.R Sliding Door Drive
TORMAX iMotion 2352.R-HB Sliding Door System	TORMAX iMotion 2302.R-HB Sliding Door Drive
TORMAX iMotion 2252.FRW Sliding Door System *	TORMAX iMotion 2202.FRW Sliding Door Drive *
TORMAX iMotion 2351.FRW Sliding Door System *	TORMAX iMotion 2301.FRW Sliding Door Drive *
TORMAX iMotion 2451.FRW Sliding Door System	TORMAX iMotion 2401.FRW Sliding Door Drive

***** discontinued

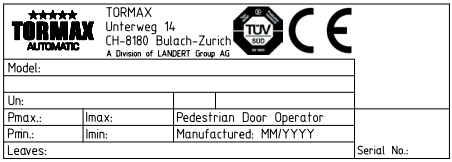
The drive designation is given in short form in the manual.
The door drives are defined in more detail by a 4-figure number:



.FRW = Rescue and escape routes
.A-R = New drive generation with auxiliary motor
.R = Drive with auxiliary motor
.R-HB = Drive with holding brake and auxiliary motor

Door system identification plate (example):
located on the side panel of the drive.

Identification plate with the serial number:
located on the drive.



1.4 Explanation of the Symbols

Warning (signal word)

Source of hazard (designates a possibly hazardous situation)

Possible consequences of non-observance

- Measures for averting danger.

Text which is highlighted in grey MUST be observed to ensure that the system operates perfectly. Failure to observe these sections can cause damage to equipment.

◆ Optional components which are not present in all systems.

1.5 Technical Data

Drive type:	Electro-mechanical sliding door drive with AC motor
Emergency opening system:	
– iMotion 2202.FRW, 2301.FRW, 2401.FRW	Mechanical emergency opening with rubber cord
– iMotion 2202.A-R, 2302.R, 2302.R-HB	Auxiliary motor
Control system:	Control unit MCU32
Mains connection:	
– iMotion 2202.FRW, 2301.FRW, 2401.FRW	1 x 230 / 1 x 115 V AC, 50 – 60 Hz, 10 – 16 A 1 x 115 V AC, 50 – 60 Hz, 15 – 20 A
– iMotion 2202.A-R, 2302.R, 2302.R-HB	1 x 230 V AC, 50 – 60 Hz, 10 – 16 A
Power consumption:	
– iMotion 2202.FRW, 2301.FRW	max. 190 W
– iMotion 2202.A-R, 2302.R, 2302.R-HB	max. 190 W
– iMotion 2401.FRW	max. 310 W
Sensor supply:	
– iMotion 2202.FRW / 2301.FRW	24 V DC, 0,75 A
– iMotion 2202.A-R, 2302.R, 2302.R-HB	24 V DC, 0,75 A
– iMotion 2401.FRW	24 V DC, 1,5 A
Protective class, drive:	IP 20
Fuse:	5 AT
Ambient temperature:	–15 °C bis +50 °C
Noise emission level:	Typically 55 dB (A) at 50 cm/s, depending on door and substructure
Elekctromagnetic compatibility (EMC):	IEC 61000-6-2, IEC 61000-6-3
Durability:	1 000 000 cycles testet

2 Safety

Warning

Important safety instructions

It is important to follow these instructions to ensure the safety of persons. These instructions should be kept available.

2.1 Responsibilities

For instructing the operator:	A specialist from a TORMAX sales partner
For operating the system:	The operator or a person instructed by the operator
For maintenance and function control:	The operator or a person instructed by the operator
For annual testing and approval:	A specialist authorised by the manufacturer

Specialists are persons who have adequate knowledge in the field of power-operated doors as a result of their specialist training and experience and who are so familiar with the relevant health and safety regulations, guide-lines and generally recognised codes of practice that they are able to assess the condition of power-operated doors with regard to the safety of their operation. Maintenance of electrical parts must be carried out by a trained electrician.

2.2 Intended Use

The product including the associated components is intended for the automation of horizontally moving sliding doors for pedestrian thoroughfares.

The drive may only be installed inside or on the inside of buildings in dry premises.

When in the “FRW ON” state, the system serves as an escape and rescue route (see also chapters 4.8 and 5.2). The escape route must be kept clear at all times. Avoid any restriction or obstruction of the escape route and its stipulated passage width.

- Assembly, installation, repair and maintenance work as well as commissioning must be undertaken by a specialist.
- The sliding door must only be operated by a person who has been appropriately trained and who must follow the Operating Instructions.
- The automatic sliding door may only be used as a smoke protection door or fire protection door if its suitability for this purpose has been demonstrated in accordance with local regulations.
- The door system may be used by persons with impaired physical, sensory or mental capabilities provided that they are either supervised by the person responsible for their safety or have been instructed in the safe use of the system and the potential hazards.
- Children must be supervised to ensure that they do not play in the vicinity of the door and do not operate the controls on the door.

2.3 Improper Use

The manufacturer will not accept any liability whatsoever for damage caused by improper use, failure to comply with the maintenance specification (see chapter 7) or unauthorised modification of the system.

- Any conversion of the system (e.g. a different user group) is not permitted without a new risk assessment (by a specialist) and the implementation of measures derived from this assessment.
- Structural changes in the danger zone of the door system are not permitted without a new risk assessment (by a specialist) and the implementation of measures derived from this assessment.
- Modifications to the door system (e.g. different, heavier door leaves, different operating components and sensors) may only be undertaken by a specialist and the technical limit values must not be exceeded.
- Safety facilities (e.g. sensor technology, manual unlocking) must not be removed or disabled.
- Cleaning and maintenance by the operator must not be undertaken by children.

Other types of improper use (examples)

- Automatic doors with door leaves that are moved in a vertical direction.
- Automatic doors with door leaves that are moved in an inclined position.
- Door systems incorporating a wicket door must not be automated.
- The drive must not be used as a drive for a wicket door.
- Automatic doors and gates used in transport equipment (e.g. vehicles, lifts)
- Use in abrasive or corrosive environments or in areas where there is a risk of explosion.

2.4 Pre-conditions for the Operation of the System

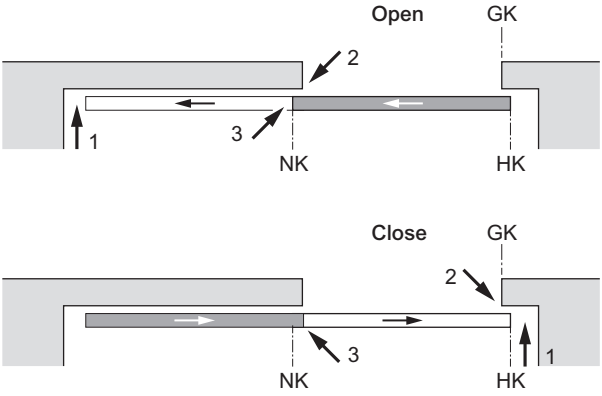
The door system was designed, installed and checked for functionality and safety by specialists prior to hand-over to the operator. The company responsible for the system's installation instructed the operator on the system's use and maintenance as well dangers associated with the system operation. The operator has confirmed this by his signature in the system test book T-879.

The provisions imposed by law, health and safety and occupational health regulations for the avoidance of accidents and the protection of the environment which are generally applicable in the country in which the system is operated supplement the instructions for use.

- The person responsible (see chapter 2.1) must have read and understood these Operating Instructions before the door system is commissioned and used.
- Only use the system when it is in perfect working order. The operating conditions, inspection and maintenance intervals stipulated by the manufacturer must be observed (chapter 6).
- Arrange to have any faults rectified immediately by a specialist.

2.5 Hazards and Risks

Depending on the system design and equipment, there is a residual risk of crushing, entanglement and collision in the movement area of the door leaves – albeit with restricted force.



HK: Main closing edge
NK: Secondary closing edge
GK: Opposing closing edge

Warning
Danger through moving parts:

– in the area of all closing edges (HK, NK, GK)

– in the gap for suspending the door in the cladding

– when objects such as, for example, display shelves are erected in the direct proximity of the moving part of the door leaf.

Warning
Hazards can arise due to deliberate damage, incorrect installation, defective sensors or sensors which are longer properly adjusted, sharp edges, incorrectly mounted and defective casing or missing covers.

Danger for body and life, danger of injury

- Have system repaired by a qualified person.

2.6 Checks

The regular checks and examinations set out in chapter 7 must be carried out as instructed by the manufacturer.

2.7 Decommissiong the System in the Event of a Fault

If there is a fault the automatic sliding door may only be taken out of service by a specialist, the operator or a person who is instructed to do so by the operator. This must be done on all occasions on which the safety of persons could be compromised.

- Switch off the mains power to the system. The all-pole mains disconnection is made via a 3-pole IEC plug or another all-pole disconnection device (e.g. in the fuse box).
- If the system includes another power source (e.g. a battery ◆) this must be disconnected from the system by a specialist.

See chapter 8 for rectification of faults.

In the “FRW ON” state 

The door opens automatically if a safety-relevant fault occurs.

- Leave the door open as long as it serves as an escape and rescue route.
- Leave the FRW key switch in the “FRW ON” position as long as the system is to serve as an escape and rescue route (for operation of the FRW key switch, see chapter 5.2).

In the “FRW OFF” state 

With locking mechanism ◆: The door remains closed and locked when a safety-relevant fault occurs.

Without locking mechanism:

(Drive).FRW: The door opens automatically by means of the rubber cord if a safety-relevant fault occurs.

(Drive).R / R-HB / A-R: The door is stopped in its position if a safety-relevant fault occurs.

2.8 Disposal

This system must be properly dismantled at the end of its working life. Its disposal must comply with national regulations. We recommend that you contact a specialist disposal company.

Warning

Aggressive acids

Risk of injury if you dismantle the battery module.

- Dispose of batteries properly.

Warning

Broken glass

Risk of injury when dismantling the door leaves.

- Take care when transporting the door leaves.

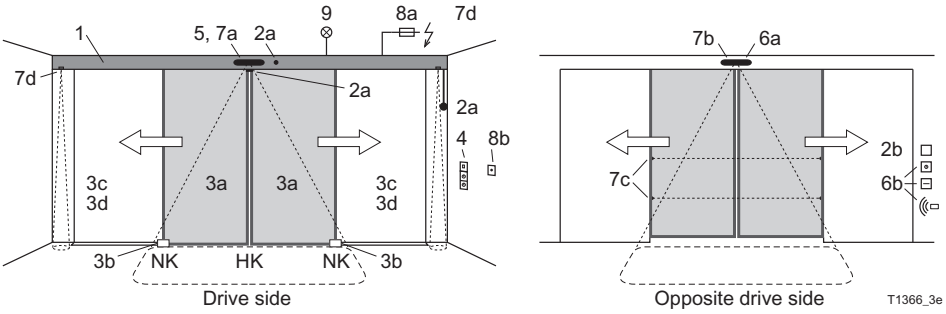
Warning

Heavy door

Danger of injury when removing the door leaves.

- Dismantle and move the door leaves professionally using suitable equipment

3 System Overview



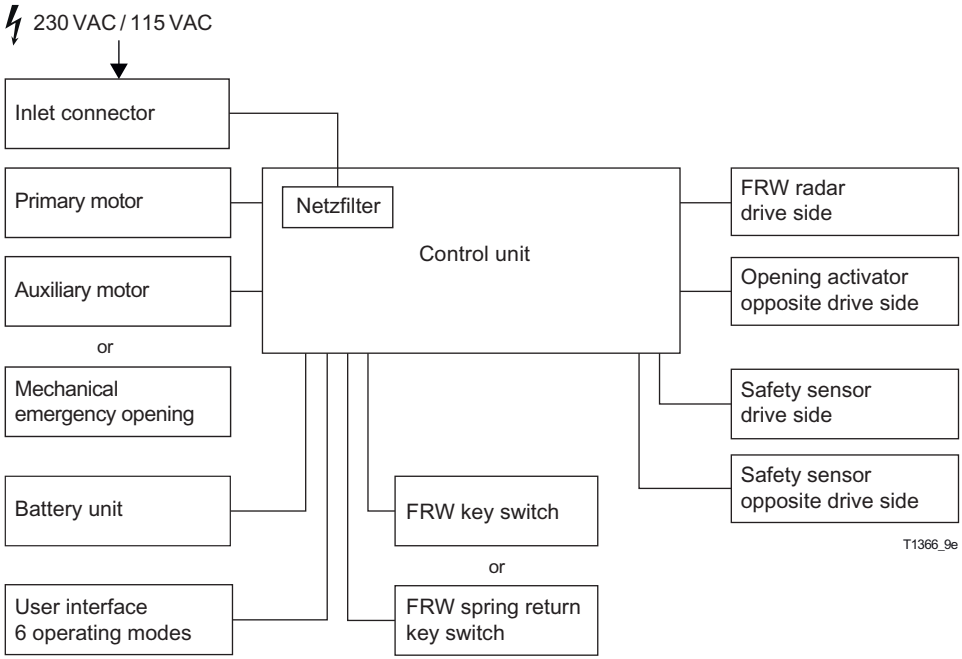
1	**Drive**	Cladding Motor unit Auxiliary motor (only iMotion 2202.A-R, 2302.R, 2302.R-HB) Mech. emergency opening (only iMotion 2202.FRW, 2301.FRW, 2401.FRW) MCU32 control system with monitoring system, power limitation and permanent diagnosis Guide system with noise-absorbent guide rail
2	**Drive accessories**	☐ Lock with a) ☐ internal manual activation ☐ in the cladding ☐ on the wall b) ☐ external manual activation ☐ Emergency power supply via the battery unit
3	**Door leaves**	a) Moving leaves with main closing edge (HK) and secondary closing edge (NK) b) Floor guide for moving leaves * c) ☐ Side part * d) ☐ Protection leaves as protection for the secondary closing edge *
4	**Operating controls**	a) iMotion user interface with 6 operating modes and fault display ☐ FRW key switch or ☐ FRW spring return key switch or ☐ Code lock
5	**Activators drive side**	FRW radar with / without direction recognition *
6	**Activators opposite drive side**	a) With automatic activation ☐ Radar with/without direction recognition * ☐ IR motion detector * b) With manual activation ☐ Key switch ☐ Card reader * ☐ Remote control *
7	**Safety sensors**	a) ☐ Presence sensor inside*: Main closing edge protection b) ☐ Presence sensor outside*: Main closing edge protection d) ☐ Presence sensors*: Secondary closing edge protection
8	**Emergency systems**	a) ☐ Fuse * b) ☐ Emergency opening *
9	**Output messages**	☐ Bell / gong * ☐ Light / ventilation * ☐ Door locked * ☐ Door status ……

☐ Depending on the system's equipment

* Not offered by TORMAX. The company installing the system must select and install suitable components as defined in the product specification EN16005 / DIN18650.

Block diagram

All work on the power supply cable and the system cabling must be undertaken by an authorised specialist and follow the necessary documents.

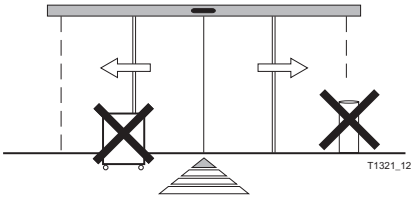


4 System Functions

Escape Route Function

The automatic door system can be walked through in the direction of escape at any time when it is in the „FRW ON“ state in operating modes AUTOMATIC 1/2, EXIT or OPEN. The escape route function is not available when the system is in the “FRW OFF” state in the operating modes OFF or manual.

The operator of the system is responsible for ensuring that the escape route is freely accessible for passing through at all times. In particular, it must be ensured that the travel path of the sliding door leaves is not blocked by any objects in the way.



4.2 Control of the Operating Modes (see also 5.2)

The automatic door system is operated

A via the TORMAX user interface and the FRW key switch

or

B via the TORMAX user interface and the FRW spring return key switch

or

C via the TORMAX user interface with code lock.

4.3 Automatic Door Operation with Sensors

When operating automatically (AUTOMATIC operating mode) the door is automatically opened from both sides by sensors (in escape route direction via FRW radar) when a person approaches.

A key switch ◆ or card reader ◆ normally allows access from outside when the door is in operating mode EXIT or OFF. The door unlocks, opens and closes again as soon as no further sensors are activated after a hold-open time which is set separately.

The sensors for the door opening and the maintained opening of the door are arranged and adjusted in such a way that the door opens promptly and remains open as long as a person is within the operating range of the door leaves. The door can close nevertheless but only after an attendance time of approx. > 1 minute.

The reduced closing speed which is set by the installer and is adjusted in line with the door weight, combined with a force of < 150 N prevents the impact of the moving leaves on a person from being too severe. The obstruction is also detected by the control system and the door automatically reverses.

4.4 Traffic Control

Movement through the door can be allowed in only one direction if desired (operating mode EXIT) or completely blocked (operating mode OFF).

In order to protect against environmental influences (wind/cold/heat) the door can be operated in operating mode AUTOMATIC 2 with a restricted opening width which is not less than the required escape route width.

4.5 Automatic System Monitoring

The control system monitors the safety sensors by a cycle of active tests. The control system also conducts continuous internal system tests.

The emergency opening systems are tested periodically. After switching from OFF (FRW OFF) to AUTOMATIC (“FRW ON”), an emergency opening test (display: H38) is automatically performed. After a further 12 hours, an emergency opening test is automatically included during the next regular door opening (display: H38). After 24 hours of continuous operation in the “FRW ON” state, an automatic test opening is carried out (display: H38).

If a safety-relevant component fails, the system automatically switches to a safe state and opens in the “FRW ON” state. The fault number is displayed on the user interface. For further details, see chapter 6 “Procedure in case of malfunction”.

4.6 Electromechanical Locking ◆

The system can be locked in the “FRW OFF” state by means of an electromechanical locking device, ◆ and can optionally also be blocked in the “EXIT” operating mode by a holding brake ◆ in closed position with a force of approx. 600 N.

The locking mechanism is monitored. Any malfunction during operation of the locking mechanism can thus be immediately shown on the user interface. For details, see chapter 6 “Procedure in case of malfunction”.

In the event of a power cut, the locking mechanism can be operated directly via the optional manual release.

4.7 Function in the Case of Power Failure While in the “FRW ON” State in AUTOMATIC 1, 2, EXIT

- The door opens immediately. The system can be operated using a battery module ◆ for a certain period of time before it then opens automatically and remains in the open position.

4.8 Operating Modes

The State “FRW OFF”

The system cannot be used as an escape and rescue route in the “FRW OFF” state.!

Operating mode OFF, state “FRW OFF”

The impulse devices (sensors) inside and outside are not observed when the door is in the closed position. The door is kept closed by a motor or the holding brake ◆, and/or locked by the electromechanical locking device ◆. Access is only possible by using the key switch.

After selecting the operating mode OFF, the door can still be used for 5 seconds to pass from inside to the outside. The transition is indicated on the user interface by the flashing display of operating mode OFF.

P Operating mode for manual operation, state “FRW OFF”

The door leaves can be moved freely. This operating mode can be used to clean the door leaves and floor guide-way, or to temporarily shut down the system. After leaving operating mode P, the system performs a restart with calibration run (H61, H62) and subsequent test opening (H38).

The State “FRW ON”

The system can be used as an escape and rescue route in all operating modes that can be selected under “FRW ON”.

Operating mode AUTOMATIC 1, state “FRW ON”

The operating mode AUTOMATIC 1 is usually used for normal daily operation. The door opens automatically from both sides via the sensors inside and outside, and usually to the full opening width.

Operating mode AUTOMATIC 2, state “FRW ON”

The operating mode AUTOMATIC 2 is usually used for normal daily operation. The door opens automatically from both sides via the sensors inside and outside, and usually to a reduced width of opening. In this case the minimum escape route width must be observed. If required, a different hold-open time can be set by the technician, other than AUTOMATIC 1.

Operating mode EXIT, state “FRW ON”

The operating mode EXIT is usually used for operation at the end of the day before business closes. The door only opens automatically from the inside, via the inside sensor.

While the door is opening, the outside sensor is also active and used for safety reasons.

The opening width is determined by the previously selected operating mode AUTOMATIC 1 or AUTOMATIC 2. The door can be locked in place automatically by the holding brake ◆. EXIT mode cannot be selected when the passage is being used as an escape route in both directions.

Operating mode OPEN, state “FRW ON”

The door opens and remains open. The opening width is determined by the previously selected operating mode AUTOMATIC 1 or AUTOMATIC 2. It is recommended that one select the full opening width in order to provide the widest possible escape route.

5 Operation

The automatic sliding door may only be operated by a specialist, the operator or a person instructed by the operator.

5.1 Commissioning

Before switching on the mains power supply:

- Unlock the optional mechanical door lock e.g. floor lock.
- Check that the movement area of the door leaves is free from objects e.g. umbrella stands or vehicles.
- Check that the floor guide (particularly if it is continuous) is clean and not blocked by anything (e.g. gravel or snow).
- Switch on the mains power and select operating mode AUTOMATIC 1.
  Operating mode AUTOMATIC 1 is displayed. If necessary, first switch to “FRW ON” state (see 5.2).

→ The first movement after switching the power on for the first time is slow. The control system is checking the door leaf’s travel distance and defining the end position. Thereafter an emergency opening test is executed automatically and H38 is displayed.

→ The door is now ready for operation.

5.2 Selecting the Operating Mode

Switching between the states “FRW ON” and “FRW OFF” may only be carried out by the authorised person.

The switching is therefore protected by a key or a code.

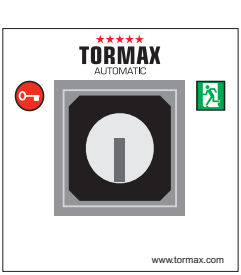
The system is fitted with one of the operating variants A, B or C.

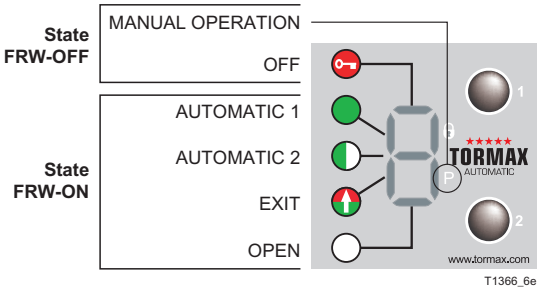
A Operation Using the FRW Key Switch and User Interface

Selection of operating modes

The authorised person can directly select the states “FRW ON” and “FRW OFF” by turning the FRW key switch.

The operating modes AUTOMATIC 1, 2, EXIT and OPEN can be selected on the user interface while in the “FRW ON” state, and operating modes OFF and MANUAL OPERATION in the “FRW OFF” state.





FRW OFF FRW ON

Optionally, the selection of the operating mode can be locked 5 s after after actuating the spring return key switch.

Resetting of faults

See chapter 6 “Procedure in case of malfunction” and chapter 8.1 Fault table

The system can be restarted by pressing and holding the lower button (2) for 5 seconds.

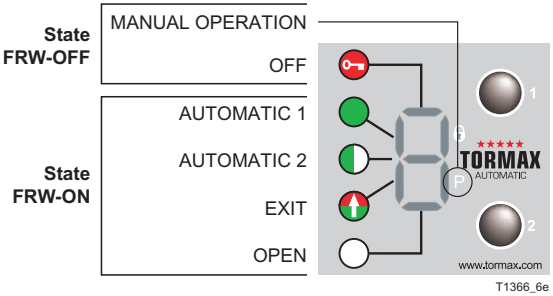
B Operation Using the FRW Spring Return Key Switch and User Interface

Selection of operating modes

The authorised person can switch between the “FRW ON/OFF” states by briefly flipping the FRW spring return key switch. The switch-over is indicated by an audible signal from the system and flashing of the operating mode.

The operating modes AUTOMATIC 1, 2, EXIT and OPEN can be selected on the user interface while in the “FRW ON” state and operating modes OFF and MANUAL OPERATION in the “FRW OFF” state.

FRW spring return key switch



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There is an option to disable selection of the operating mode, 5 seconds after actuating the spring return key switch.

Resetting of faults

See chapter 5 “Procedure in case of malfunction” and chapter 8.1 fault table.
The system can be restarted by pressing and holding the lower button (2) for 5 seconds.

C Operation using the FRW code lock and user interface

Selection of operating modes

The authorised person can unlock the TORMAX user interface by entering the code. All operating modes can then be selected directly on the user interface, within the next 60 seconds.

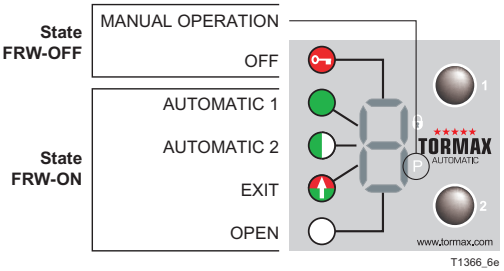
Your code: ……

Example with standard code 333

Press upper key 3 ×

Press lower key 3 ×

Press upper key 3 ×
Time allowed for input max. 15 s.
After an incorrect entry, wait at least 5 seconds.



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Resetting of faults

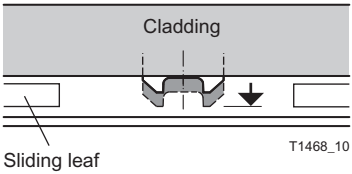
See chapter 6 procedure in case of malfunction and chapter 8.1 fault table.

The system can be restarted by pressing and holding the lower button for 5 seconds.

5.3 Operation in Case of Power Failure

Closing and locking the door

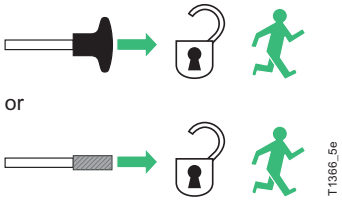
- Pull the sliding bolt by hand to the “locked” position.
- Push the sliding leaf by hand until the lock engages.
- Turn the FRW key switch to “FRW OFF”.



When the power returns, the operating mode is automatically set to OFF due to the position of the locking bolt, and then the door remains locked in this case.

Manual unlocking ◆

TORMAX iMotion 2301.FRW, 2302.R
TORMAX iMotion 2401.FRW



TORMAX iMotion 2202.FRW, 2202.A-R

- Actuate the manual release.

The door opens automatically by means of the rubber spring (only for TORMAX iMotion 2202.FRW, 2301.FRW, 2401.FRW). Otherwise open the door manually (TORMAX iMotion 2202.A-R, 2302.R, 2302.R-HB).

- If required, turn the FRW key switch to “FRW ON”.
  → When the power returns, the operating mode is automatically set to AUTOMATIC due to the position of the FRW key switch, and then the door is ready for automatic operation as an escape and rescue route.

Opening via key switch with battery unit ◆

- Actuate the key switch for at least 5 seconds and turn it back again.

  → The battery is switched on via the wake-up function.
  → The door is unlocked and opened, closed and locked again.
  → The battery switches off again.

The key switch contact must not be switched on permanently!

6 Procedure in the Event of a Fault

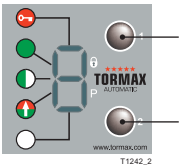
Faults are evident from abnormal door behaviour and/or as an error message on the user interface. Error messages on the user interface take the form of a flashing “E” or “H” followed by two figures.

H = notification > the system can continue to be used.

E = fault > the system is stationary.

Some faults or notifications can be rectified by restarting the door drive with a software reset and/or briefly disconnecting the system from the power supply.

Fault Display and Reset Using the TORMAX User Interface



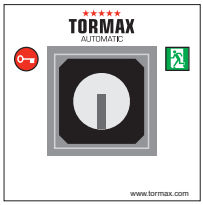
Browse through the fault display

1. Reset the error message, press selector key briefly.
2. Software reset: press the key for 5 seconds.

Resetting FRW faults by changing the operating mode

- Applies to display E70 – E77
- Set state to “FRW OFF” and then back to “FRW ON”.

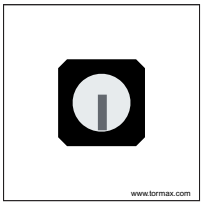
A FRW key switch



→ FRW-ON

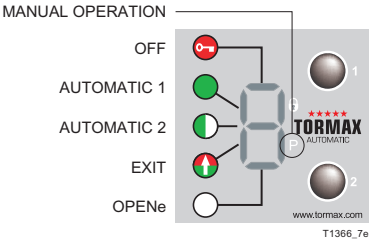
→ FRW-OFF

B FRW spring return key switch



→ Flip 2 × in succession until you hear a beep (after min. 3 s). The operating mode changes to OFF and back to AUTOMATIC.

C FRW code lock



→ Enter the code

→ Set the operating mode to OFF and then back to AUTOMATIC.

If this does not reset the fault or if it re-occurs after a short time, you must arrange for the fault to be rectified by a specialist from your TORMAX dealer. In this case note the fault number and inform the dealer. See the last page or the service tag on the system for the dealer’s address.

7 Maintenance

The system was tested and approved by an expert before initial commissioning. The manufacturer recommends that you conclude a service contract in order to maintain the value of your system for as long as possible as well as to ensure the system operates reliably and safely for a long time.

Only genuine TORMAX spare part should be used. The manufacturer accepts no liability if you fail to observe this requirement. Original spare parts and original accessories guarantee the safety of use in accordance with norm EN 16005.

Warning

Potential injury hazard!

Entrapment of limbs can lead to serious injuries.

- The drive must be disconnected from all power sources including batteries during cleaning, maintenance and when replacing parts.

7.1 Cleaning

- Clean casing parts, the user interface and door leaves with a damp cloth and a commercial cleaner.

7.2 Functional Checks

Check the function and safety devices of the automatic sliding door at least **every 3 months**.

This will ensure that faults or hazardous changes in the system are detected at an early stage. See chapter 8.2 “Check-list for Functional Checks” for items to be checked.

- You should arrange for any defects detected during the routine checks to be rectified immediately by a TORMAX dealer (see the last page of this Manual for the address).

Warning

Potential switching malfunction of the automatic sliding door!

Possible risk of injury caused by impact or crushing.

- Secure the door area during the function checks.

7.3 Maintenance and Testing

Maintenance and testing should only be carried out by a trained specialist following the manufacturer’s instructions.

Maintenance Interval

The maintenance interval depends on the frequency of use but the system must be maintained at least **once per year.**

Scope of the Maintenance Work

The content of the maintenance work is specified by the manufacturer in an inspection list.

System Test Book

The test findings are recorded after the test in the system test book. The operator must keep it in a safe place.

8 Appendix

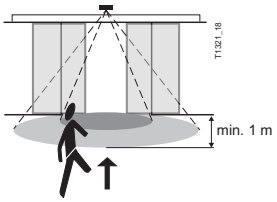
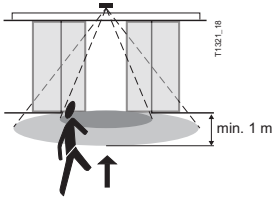
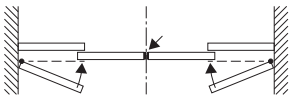
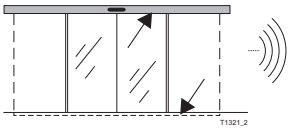
8.1 Fault Table

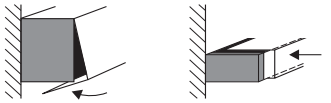
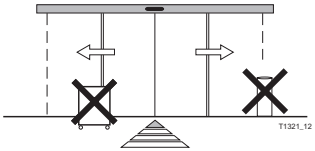
System Behaviour	No.	Cause	Remedy/ Rectification
Door system runs normally	H34	FRW spring return key switch is switched on for too long. > 5 s.	Reset FRW spring return key switch.
Door system runs normally	H35	Emergency opening spring will soon be too weak.	Have the system checked by a specialist.
Door does not stop during test opening	H36	No magnetic switch signal.	Have the system repaired by a specialist.
Door opens and closes normally or only with 20 – 40 cm opening width.	H38	Normal test opening after switching to FRW ON or after software reset or after 24 hours in FRW ON.	Wait until the test opening is finished.
The door stops when opening.	H91	Electronic obstacle recognition on opening by a person, wind pressure, ventilation or dirt in the floor guide.	Remove the obstruction. Clean the floor guide in operating mode P (FRW OFF).
Door reverses when closing.	H92	Electronic obstacle recognition on closing by a person, wind pressure, ventilation or dirt in the floor guide.	Remove the obstruction. Clean the floor guide in operating mode P (FRW OFF).
The door stops repeatedly when opening.	H93	Repeated electronic obstacle recognition on opening by stationary obstacle.	Remove the obstruction. Clean the floor guide in operating mode P (FRW OFF).
The door stops repeatedly when closing.	H94	Repeated electronic obstacle recognition on closing by stationary obstacle.	Remove the obstruction. Clean the floor guide in operating mode P (FRW OFF).
Search run notified.	H61 H62	Search run of the door after a reset or after power recovery.	Allow the search run to travel its full course.
Door operates at a reduced speed.	H71	Battery operation	Wait for power recovery Switch on mains supply.
Normal door operation	H73	Motor overloaded in closed position	Have the system checked by a specialist
Door remains closed.	–	Operating mode such as OFF, EXIT or P.	E.g. select operating mode AUTOMATIC 1.
Door remains open.	–	Operating mode such as OPEN or P.	E.g. select operating mode AUTOMATIC 1.
Door remains open.	–	Sensor is activated repeatedly. LED on sensor lights up.	Remove moving objects from the sensor detection area.
Door does not lock in FRW OFF.	E11	Lock unit is jammed or defective.	In operating mode OFF when the door is closed: Push the door leaves against the closed position for a few seconds. Have the system repaired by a specialist.
Door does not open after changing from FRW OFF to AUTOMATIC. Lock unit periodically produces switching noises	E11	Lock unit is jammed or defective.	In operating mode AUTOMATIC 1: Briefly push the door leaves against the closed position. Have the system repaired by a specialist.

System Behaviour	No.	Cause	Remedy/ Rectification
Door does not open via the key switch while in FRW OFF. Lock unit produces switching noises.	E11	Lock unit is jammed or defective.	Turn on the spring return key switch and then briefly push the door leaves against the closed position. Have the system repaired by a specialist.
Dependent on configuration.	E2 ...	Error in bus system	Have the system repaired by an expert.
The door closes slowly.	E30 E34	The safety facility in the closing direction is permanently active (>1 min.) or defective.	Remove objects from within the range of the sensor(s). Otherwise have the system repaired by an expert.
Door remains closed.	E31 E37	The safety facility in the opening direction is permanently active (>1 min.) or defective.	Remove objects from within the range of the sensor(s). Otherwise have the system repaired by an expert.
The door opens slowly.	E32 E38	The safety facility in the opening direction is permanently active (> 1 minute) or defective.	Remove objects from within the range of the sensor(s). Otherwise have the system repaired by an expert.
The door remains open.	E33 E39	The safety facility in the closing direction is permanently active (> 1 minute) or defective.	Remove objects from within the range of the sensor(s). Otherwise have the system repaired by an expert.
The door remains open.	E41 E42	Activator inside is active > 1 min. Activator outside is active > 1 min.	Get sensor adjusted by an expert.
The door remains open.	E43	Key switch is active > 1 min.	Reset the key switch.
Door remains open.	E46	Emergency opening monitoring > 10 min. active	Have the system repaired by an expert.
Door remains open	E48	Key switch to wake-up battery >1 min. active	Reset the key switch.
The door stands still.	E51	Encoder defective.	Have the system repaired by an expert.
The door stands still.	E53 E54 E55	Anomaly in the travel distance. Solid obstruction in the movement area.	Remove firm obstacle in the travelling range of the door. Perform a software-reset. Have the system repaired by an expert.
The door stands still.	E61 E62 E63	Power supply is overloaded or voltage too low.	Get the power supply and connections checked by an expert.
The door stands still.	E64 E65	Drive/control system is overheated.	Wait for the automatic reset after the door/control system has cooled. Protect from direct sunlight.
The door stands still.	E66	Motor control defective.	Have the system repaired by an expert.
Normal operation	E67	Drive heavily loaded.	Wait for the automatic reset Otherwise have the system repaired by an expert.
Door remains open	E71 E74	Opening movement takes too long	Clean the floor guide-way if necessary. Remove any obstruction in the direction of opening. Have the system checked by a specialist.
Door remains open or in normal operation.	E72	Battery charge < 15 %	Wait until the battery is sufficiently charged.
Door remains open	E73	Internal function test, battery unit / escape route unit shows negative	Do a software reset or switch FRW OFF/ON. Otherwise have the system repaired by a specialist.

System Behaviour	No.	Cause	Remedy/ Rectification
Door remains open	E70 E75	End-switch error	Have the system repaired by a specialist.
Door remains open	E76	Holding brake is defective	Do a software reset or switch FRW OFF → ON. Otherwise have the system repaired by a specialist.
Door remains open	E77	FRW spring return key switch is switched on > 1 minute.	Reset FRW spring return key switch. Otherwise have the system repaired by a specialist.
Door remains open	E78	DCON relay test shows negative or DCON is missing.	Have the system repaired by a specialist.
The door stands still.	E8 ...	Control system shut down for safety reasons.	Perform a software-reset. Have the system repaired by an expert.
The door collides with people.	–	Safety device or setting inadequate.	Shut down the system (see chapter 2.7).

8.2 Check-list for Functional Checks

Item To Be Checked	Procedure	Result
Sensors		
	• Walk through the door directly from the front and from different directions at normal speed, starting both from the inside and outside. Activation (detection area) min. 1 m from main closing edge.	The door opens at the right time and with sufficient speed so that passage through the door Is not hindered.
Safety Sensors		
	• Walk through the door directly from the front and from different directions at a slow speed like an infirm person, starting both from the inside and outside. Activation (detection area) min. 1 m from main closing edge.	The door opens and remains open until you are completely through the door.
	• Check the glass door fillings, door edges and rubber profiles for damage.	The door fillings have no sharp edges and splintered glass. The side parts and the door seals are in place and undamaged.
Guide System and Door Guides		
	• Check the noises made while the door moves.	No unusual and noticeable movement noises can be heard in the drive, guide system or floor guides.

Item To Be Checked	Procedure	Result
Cladding		
	• Check whether the cladding is correctly slotted into place and secured.	The cladding is firmly slotted into place.
Operating Controls and labels		
	• Check the function and labelling of operating elements as well as the labelling of transparent door leaves or leaf surfaces.	The operating elements function and the labellings are present and legible. Transparent leaves or leaf surfaces shall be clearly identifiable by permanent marking, inscription or the use of coloured materials.
System Vicinity		
	• Check access to the door and the movement area of the door leaves.	Access to the door is free from objects and items likely to cause the user to trip. There are no objects such as shelves, plant containers and umbrella stands within a radius of 50 cm of the movement area.
Power supply cable		
	• Check whether the power supply cable outside the drive is damaged.	If the power supply cable is damaged, it must be replaced by a technician.

CE

EC Declaration of Conformity

The manufacturer (installation company) of the complete door system declares

Manufacturer's address: _____

_____

_____

that the product (door system)

Type designation: _____

Serial number: _____

is in conformity with the directive 2006/42/EC (Machinery Directive)

is in conformity with regulations of the guidelines:

- 2014/35/EU (low tension)
- 2014/30/EU (electro-magnetic-compatibility)

and the following harmonised standards have been adhered to:

- EN 16005

Base document:

- Declaration of incorporation by TORMAX I LANDERT Group AG
- Risk evaluation for automatic sliding doors I T-1178

Person responsible for documents

Name/address: _____

_____

_____

Place, date: _____

Signatory

(CE authorized person): _____

Signature: _____

TORMAX
AUTOMATIC

the passion to drive doors

TORMAX Swing Door Drives

TORMAX Sliding Door Drives

TORMAX Folding Door Drives

TORMAX Revolving Door Drives

Manufacturer

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501243