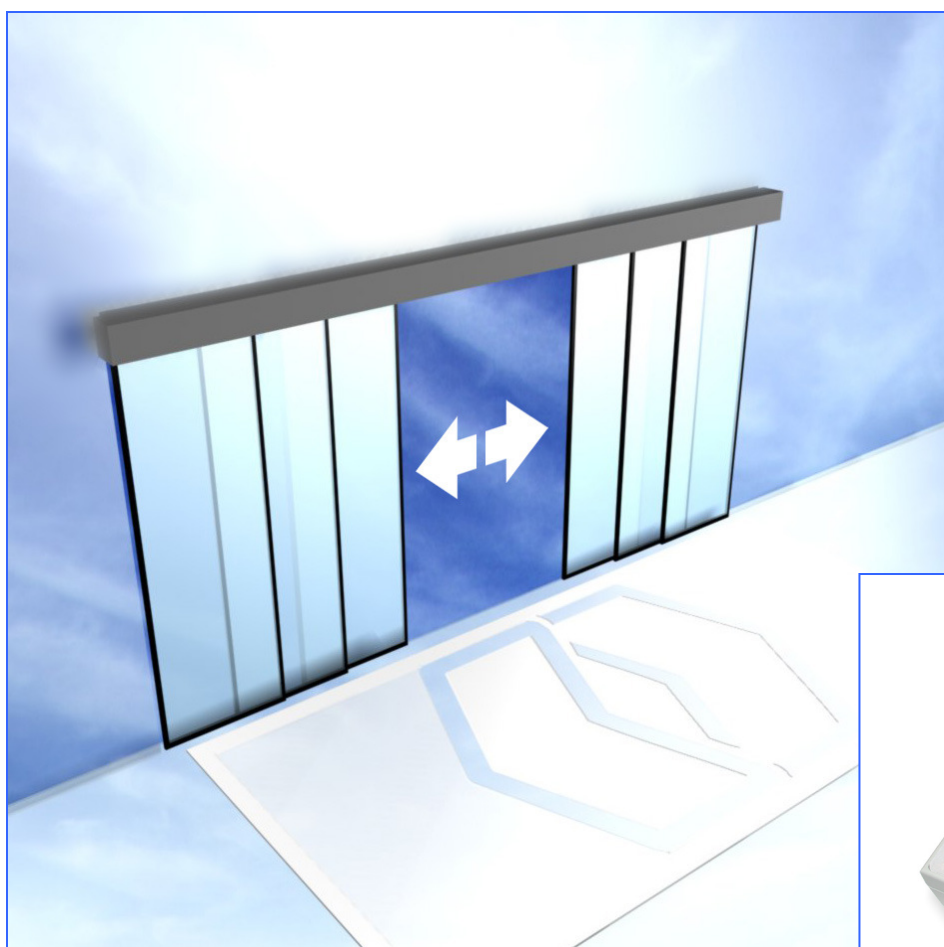


Maintenance and troubleshooting

record sliding door system 20



Manufacturer:

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1. General remarks

1.1. Goal and application field of maintenance and service

These instructions describe the maintenance and troubleshooting of the record system 20 and are intended for qualified and authorized service technicians of the record system 20 automatic sliding door installation.

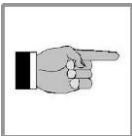



This product is subject to technical modifications, which could lead to discrepancies between product and maintenance instructions.

Please carefully read these instructions before servicing or repairing a record system 20 sliding door and observe all safety instructions.

1.2. Definitions

For improved readability of this document, the following terms and symbols are used:

Term:	Explanation:
record system 20	Automatic sliding door installation consisting of electromechanic drive and door leaves system, including essential connecting and cover profiles.
Manufacturer	agtatec ag company, CH-8320 Fehraltorf
Operator	Owner of the record system 20 sliding door, regardless whether he operates the installation himself or supplies it to a third party.
End-user	All the persons who use the automatic sliding door.
Specialist	All the persons who are authorized to carry out some specific activity on a sliding door installation, on the basis of their training. Thus an electrician specialised in connecting the sliding doors to the mains is considered as a specialist.
Service technician	Qualified specialist, authorized by the manufacturer or by his representatives for ensuring maintenance and troubleshooting on record system 20 sliding door installations.

	INSTRUCTION	Especially useful details concerning installation.
	ATTENTION	Special details essential for the satisfactory operation of the system.
	CAUTION	A possibly dangerous situation, which could lead to light injury and material damage.
	WARNING	An imminent dangerous situation, which could lead to severe or fatal injury and cause extensive material damage.

2. Safety instructions

The record system 20 sliding door has been constructed with state of the art technology and according to recognised technical safety regulations. It complies with the requirements of Machine Guideline 2006/42/EG.

Nevertheless, danger can arise for the end-user if the installation is not used as intended.



ATTENTION

- Any work of installation, maintenance or repair on record system 20 may only be performed by the manufacturer or by the qualified and authorized staff of his representatives.
- A risk assessment is to be carried out for the whole installation.

2.1. Use for the intended purpose

The record system 20 operator is designed exclusively for normal service with automatic sliding doors in dry rooms and must be installed indoors or on the inner side of a building. It can also be mounted on the outer side, if the customer provides for a proper sealing.

Any other application or use beyond this purpose is not considered to be an intended purpose. The manufacturer bears no liability for any resulting damage; the operator alone shall bear the responsibility.

The intended purpose also includes observation of the operating conditions specified by the manufacturer, in addition to regular care, maintenance and repair.

Unauthorized modifications to the automatic door will release the manufacturer from all liability for any resulting damage.

2.2. General safety and accident prevention regulations



WARNING

No safety devices (sensors) may be dismantled or placed out of use.



CAUTION

No persons or objects may be present in the opening area of the sliding door, in order to avoid squashing and cutting.



ATTENTION

The automatic pedestrian sliding door operator is NOT intended to be disconnected from the mains at night!

3. Instructions for maintenance and service

3.1. Preparations

In order to work efficiently, the special tools and aids listed below are necessary:

- record Flash-Programmer FPC with up-to-date software
- Installation and commissioning instructions record system 20
- Spare parts selection record system 20

3.2. Schedule of periodical maintenance

Cleaning

- Cleaning operator parts like tracks, wheels, locking device, etc.

Mechanical control



WARNING

Mechanical works on record system 20 may only be performed when the installation is disconnected from the mains and the battery (if existing) is disconnected.

- Control running gear: the stabilizer-wheels must easily be rolled by hand, with system 20 they may not (when door leaves are suspended) roll along when sliding the carriages. The carbon fibre brushes must touch the track.
- Control locking and MPV-locking devices (if applicable): control requires to be unplugged. Slide door leaves by hand in closed position. Actuate locking device manually. The locking device must be able to be easily actuated. Door leaves should show an approx. 1 mm play in the locked position. Check MPV-locking elements in door leaf.
- Control gear belt: check tension of gear belt, and if necessary retighten by shifting the guide pulley support. Check correct positioning of operator wheel to ATE motor unit.
- Screw connections: check that all screws are well tightened. Pay special attention to elements particularly under strain like e.g. corner brackets on door leaves.
- Electrical connections: control correct connection of cables and plugs.
- Profiles: control fixing and condition of aluminium, rubber and brush profiles, as well as door leaf guides and, if need be, replace them.
- Control attachment of casing and check for perfect positioning.
- Clean control unit and safety elements and check for correct mechanical fitting.

Controlling functions and safety

- Switch on mains voltage and plug in battery (if applicable).
- Control silent running of door in automatic operating mode.
- Check all functions of control unit.
- Control actuating and safety devices and keep record.

Instructions for maintenance and service **3**

- Control manual unlocking devices inside and/or outside (if applicable) and keep record.
- Make operator check card and badge readers (if applicable).
- Check key-operated contact (if applicable).
- Emergency or battery service (if existing): switch off mains voltage and check functions without current according to local prescriptions and configuration (see configuration sheet of the installation). Afterwards switch mains voltage on again.
- Control function of emergency opening or emergency closing by disconnecting the Fire Alarm circuit and keep record.
- If applicable: additional control for redundant RED operator on escape routes according to local prescriptions. Keep record.
- If applicable: additional control for CO48 operator according to local prescriptions. Check condition of rubber cord; traction cord must pull door open on 100% of opening width. Control guide pulley and surveillance switch. Keep record of results.

Administration

- Should the door not meet any longer the country-specific regulations, inform the operator in writing about it.
- Update logbook (see next chapter).
- Have the service report (completely filled in) signed by the operator.

3.3. Logbook



ATTENTION

The following example of a logbook is just a pattern.

According to local regulations such a logbook must be attached to the door installation and all interventions and recurrent controls must be recorded in it.

Date	Error description / status no.	Troubleshooting / maintenance / recurrent controls	Repairs / replacements	Service technician

4. Repairs

4.1. System information on BDE-D

Information about the operator system, like e.g. the software version, can be read out of the BDE-D main display.

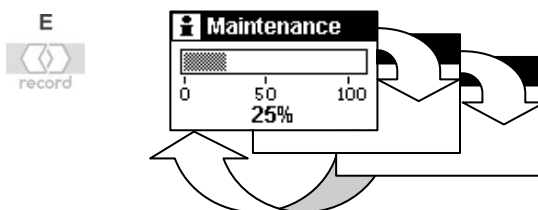
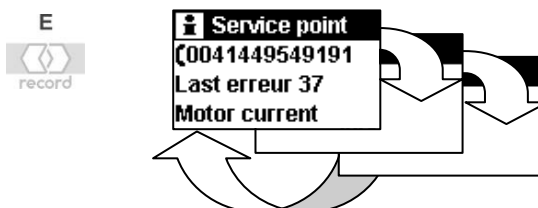
Telephone number, fault and maintenance are only displayed, when this function has been activated by the service technician.



Press key about 2 seconds



Browse through informations by tapping the key

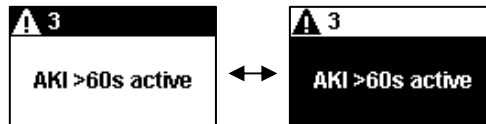


Back to main display by pressing the key or automatically after 20 seconds.

4.2. Error display and troubleshooting

In case of an anomaly in the operator system, the standard screen of the BDE-D automatically shifts from operating mode to error display.

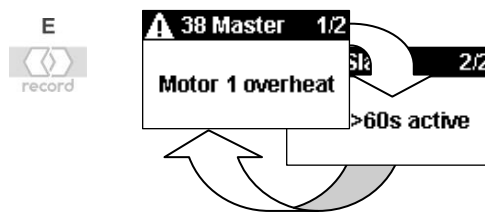
After 2 seconds, display changes between normal / inverse.




If several errors are active, they are numbered:

For instance, error 1/2 means that the first one of 2 errors is displayed.


Browsing through error displays:





 Temporary return to main display for 4 seconds after browsing through error displays.




4.2.1. Common error displays

The possible error messages are listed in the table below according to their number and together with a problem description and data for troubleshooting the errors and resetting the display. The following abbreviations and symbols are used:

Abbreviation/ Symbol	Meaning
Nr.	Status or error number.
Typ	This error only occurs with this special type of door.
Res	A service technician is required for resetting the error display. After removing an error, no automatic reset happens.
W	If a „W“ is displayed after the status or error number, it means that the error on display is a warning message and not an error message.
	Despite the upcoming error the door can provisionally be locked as follows: <ul style="list-style-type: none"> • Set BDE-D on MANUAL operating mode • Slide door leaves by hand into closed position • Set BDE-D on LOCKED operating mode • Door remains closed and locked

No.	Display text	Type	Res	Comments and possible troubleshooting
3	AKI > 60 sec. active			Inside radar longer than 60 sec. active and door remains open. Check that no moving objects are activating the radar. Door can be locked with 
5	AKA > 60 sec. active			Outside radar longer than 60 sec. active and door remains open. Check that no moving objects are activating the radar. Door can be locked with 
6	Unlocking error		X	Unlocking error: it is impossible to unlock the door. Repeat unlocking attempt after changing the BDE operating mode. If door cannot unlock, set it on MANUAL operating mode and actuate hand unlocking device (if existing) and then select AUTOMATIC mode, reset hand unlocking device, inform after-sales service and check locking device.
7	No redundancy test	RED	X	When no „redundancy“ test could happen within the last 24 h or the „redundancy“ test was not correctly performed on a door not locked. Reset. Control settings.
9	Battery fuse open		X	Battery fuse is disconnected or battery is not plugged in. Door works if mains voltage is provided and it is no RED installation, or rather the parameter „Basic escape route„ is not activated.
9	Open. unsuccessful			Door does not open or only slowly. SIO might possibly be active or motion be mechanically hindered (e.g. dirt in floor track).
10	Locking error			Locking error and door remains approx. 10 cm open → depending on parameterising door remains closed. Door might possibly be hindered or locking device might need to be adjusted.
11	Difference AKI	RED	X	Error in the interpretation of the inside radar signal. Check inside radar.
12	Low BAT voltage		X	Battery is missing or is not plugged in. Door works if mains voltage is provided.
12	BAT capacity		X	Battery not fully powerful anymore. Replacement by after-sales service. Door goes on working.
13	Redundancy test	RED		Information: 2 test cycles on open door are performed.
14	VAK defective		X	Locking device hampered. VRR cable might possibly not be connected. Adjust door leaves and locking device.
15	EMERG. OPEN.	RED		On RED installations emergency opening switch has been actuated.
17	Timeout open. time	RED	X	80% of escape route opening not reached within 3 sec. Control with FPC, adjust opening speed. Under „Status“, opening time + 400 ms.

No.	Display text	Type	Res	Comments and possible troubleshooting
18	VAK closed automatic		X	Make contact (NOC) of locking device is active with Automatic. Locking is set on „wrong“ position. Change operating mode on BDE-D to Locked and again to Automatic. Actuate manual unlocking, or rather completely reset it. Adjust locking device.
19	Diff. oper. mode	RED	X	RED error on BDE-V. Both contacts must be closed. Check wiring and connections.
20	CO48 rubber cord	CO48	X	Check cord rupture or cord tension. Control function of cord switch and wiring/connections. Door locking possible. Set door on BDE-D on Locked mode and slide door in closed position.
21	Encoder 2 def.	RED / DUO	X	Encoder error of 2nd motor. Control encoder and cable. Position of jumper JP4 always on DST.
27	RED VRR test	RED	X	Locking error with RED door. Check setting of locking device.
29	TOS not locked	TOS with DV		TOS not locked (rotary switches) on Locked. Turn rotary switches onto Locked position (above).
30	TOS locked	TOS with DV		Automatic mode, TOS locked, but door stays in manual mode. Unlock with rotary switches.
31	EMERGENCY STOP			Emergency stop key has been pressed or manual unlocking has been actuated.
33	Error ELS1		X	Light barrier signal is not identified. Inform after-sales service. Calibrate ELS with 2 light pulses.
36	VOK closed I.		X	Locking device does not work properly. On BDE-D change operating mode to Automatic and again to Locked. Wrong locked position or VRR faulty.
37	Motor current		X	Possibly wrong motor type parameterised or motor is overloaded.
38	Motor 1 overheat		X	Motor 1 is too warm. Door works sluggishly.
39	Overload 24V		X	24 volts supply for peripheral units is overloaded. Check wiring.
41	Temp. sensor 1		X	With motor 1: temperature sensor is faulty or motor cable is disconnected.
42	Temp. sensor 2	RED / DUO	X	With motor 2: temperature sensor is faulty or motor cable is disconnected.
43	Encoder fault		X	Encoder or cable is faulty or not plugged in. Reset.
44 W	T. motor high			Warning message: It extends hold-open times. Door might work sluggishly. Check for presence of mechanical hindrance.
46	STG defective		X	Control unit is defective. Reset. If no success, then replace control unit.
47	SIO > 60 sec active		X	Door does not open or slides at reduced speed. Verify safety element SIO.
48	NSK or SOK activated			Alarm has just come in. Control safety alarm. Control external signal.
50	Watchdog fault			Replace control unit.
51	VOK open unl.		X	Repeat locking and unlocking procedures. Connection cable might be missing or is not properly plugged in. Check locking settings.

No.	Display text	Type	Res	Comments and possible troubleshooting
52	No run param.		X	Door must be calibrated (perform teach-in run).
53	Interrupt. mot. 1		X	Motor is not plugged in. Motor is faulty. Afterwards reset.
54 W	Calibrating run		X	Warning message: Calibration run is performed.
55	Power failure			No mains supply. Door works in battery service provided that there is a battery and not "Basic escape route" has been configured.
57	Interrupt. mot. 2	RED / DUO	X	2nd motor is not plugged in. Motor is faulty. Afterwards reset.
59	ELS > 60 sec. active			Light barriers disconnected and door remains open. Check that safety barriers are not covered or extremely dirty. Door can be locked with 
59	SIS > 60 sec. active		X	Door does not close. Control safety element. Are ELS covered? Door can be locked with 
60	EEPROM defective		X	Load factory settings. 9 light pulses with MFT and reset within 10 seconds. Afterwards language selection has to be displayed on BDE-D. Attention! All programmings are reset. Reconfigure door. Replace control unit if door still fails to function.
61	SSK > 60 sec. active			Key-operated contact stays active. Door remains open. Control SSK-switch and wiring/connections. Door can be locked with 
62	BDE no priority			BDE is locked e.g. by a clock timer on input SURV/SURA accordingly configured. On RED installations, door is locked with BDE-V.
88	Diff. parameters	RED	X	With RED, different programmes. CPU1 and CPU2 must have the same software.
92	STG relay defect.		X	Change control unit.
93	Overvoltage 24V		X	Wiring error. Check connections.
96	EEPROM void		X	Load factory settings. See error 60.
97 W	Maintenance time exceeded		X	Warning message: Actual value = 105% of target value of cycles or operating hours. Acknowledge message. Alarm is reset for 13 days. Inform after-sales service and have installation serviced.
98 W	Maintenance due		X	Warning message: Actual value = 95% of target value of cycles or operating hours. Repeat at 100%. Acknowledge message. Alarm is reset for a short time. Inform after-sales service and have installation serviced.
100	Check motor cable	RED / DUO		Control all motor cables. Rotating direction of jumper JP4 is wrong. Jumper for rotating direction does not function with RED and DUO. Set rotating direction with connecting clamp.

No.	Display text	Type	Res	Comments and possible troubleshooting
102	Diff. RED status	RED / DUO	X	Different software in both microprocessors. Update software in STM 20 DUO/RED.
112	Batt. not charged complet.			Battery is not fully charged. Message disappears from display in case of full charge.

4.2.2. Error display of additional units on CAN bus (only with FPC)

Those error numbers consist of 4 digits as follows:

- Digits 1 + 2 indicate the reason of the error
- Digits 3 + 4 specify the name of the unit

e.g. error number **1616** means that sensor AI 1 does not have any teaching parameter and a teach-in run has to be performed.

All these faults can only be repaired by a qualified service technician.

Digits		Display text	Comments and possible troubleshooting
1+2	3+4		
11	--	VERBINDUNG	CAN connection interrupted. Control connection.
12	--	CAN SEND	Send CAN connection. Control connection.
13	--	CAN RECV	CAN connection received. Control connection.
14	--	EEPROM	EEPROM faulty. Load factory settings. Replace unit.
15	--	EEPROM LEER	EEPROM empty. Load factory settings. Replace unit.
16	--	LERNPARAMETER	No teaching parameters available. Perform teach-in run.
17	--	HW DEFEKT	Hardware faulty. Replace unit.
--	03	SLAVE CPU2	CPU2 microprocessor 2 on control unit. Correctly place cable to encoder 2 – for RED/DUO twisted.
--	08	SENS SI 1	SI 1 presence detector inside 1
--	09	SENS SI 2	SI 2 presence detector inside 2
--	10	SENS SA 1	SA 1 presence detector outside 1
--	11	SENS SA 2	SA 2 presence detector outside 2
--	12	SENS SL	SL 1 side surveillance left
--	13	SENS SR	SR 3 side surveillance right
--	16	SENS AI 1	AI 1 actuating device inside 1
--	17	SENS AI 2	AI 2 actuating device inside 2
--	18	SENS AA 1	AA 1 actuating device outside 1
--	19	SENS AA 2	AA 2 actuating device outside 2
--	22	FEM-0	FEM-0 extended functions module 0
--	23	FEM-1	FEM-1 extended functions module 1

5. Taking out of service and disposal

5.1. Taking out of service

When the record system 20 installation is discontinued or taken out of service, it is disconnected from the power supply and the battery (if relevant) is disconnected.

After every temporary discontinuation, a new commissioning has to be carried out.

5.2. Dismantling and disposal



ATTENTION

All the parts of the machine must be sorted by material types and disposed of according to local regulations and guidelines.

The record system 20 sliding door installation can consist of the following materials among other things:

Aluminium:

- Door leaf and side screen profiles
- Operator casing
- Various profiles and small parts

Steel and iron parts:

- Optionally spacing or reinforcing profiles
- Various small parts like carriages, etc.

Glass:

- Door leaves and side screens

Various electrical and electromechanical components

- Control and operator components
- Sensors
- Lead-acid batteries and accumulators

Various plastics:

- Wheels
- Sealing profiles
- Casings of electromechanical components and sensors