# Automatic <br> Swing Door Operator DFA 127 

## Manual <br> E

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record

## 1 Description of the equipment

The record DFA 127 (Full Power) is a compact, self-monitoring, microprocessorcontrolled swing door operator (abbreviated to DFA). With its many special and additional functions, it is suitable for a very wide application spectrum. The path of every door movement is controlled by the microprocessor, which evaluates the current door position, the door speed and the final position at every instant and precisely calculates the optimum motion. This makes the familiar end-stops, jerky braking actions, creep speeds etc. unnecessary. Depending on the door width, the corresponding spring range must be selected in the range of EN 4 to EN 6 (according to European Norm EN 1154). Safety is also additionally increased by the use of a redundant force limitation.

## Low energy drive (Low Energy)

In the parameterisation of the Low Energy door type, the DFA acts as an automatic low energy operator. The opening and closing speeds are limited and the operator is more sensitive in case of a collision. The closing action takes place using spring force and reduced kinetic energy. To prevent unintentional or malicious modifications to the program, user access to the parameters is blocked.
The set values for the permitted speeds are indicated in DIN 18650-2. They are calculated depending ion the weight of the door leaf and the width of the door.

### 1.1 Types of arms, including accessories

The power transmission from the motorisation unit to the door leaf is carried out by a set of arms. Depending on the installation situation, the optimal solution can be selected from two different types of arms (standard or slide arm). Standard arms are available in different lengths for various lintel depths. By using optional extension pieces, so-called adaptors, different lintel heights can be compensated.

### 1.2 Accessories and special applications for the DFA 127

5 operational modes can be remotely selected with the external BDE-D, which is available as a flush-mounted or surface-mounted model.

## Master / Slave

In the Master / Slave operation, two DFA 127 can be sequentially controlled without additional mechanical door locking systems.
Not suitable for fire protection doors!

## Extended operator casing

The installation of additional sensor devices is possible using an extended operator casing.

## Flexible cable connection

With the flexible cable connection, the wiring of DFAs that are mounted on the moving door leaf can be carried out in an elegant manner.
5 operational modes can be remotely selected with the external BDE-D, which is available as a flush-mounted or surface-mounted model.

## 2 Safety Instructions

The DFA 127 has been constructed to the latest state-of-the-art and the recognised technical safety regulations, including, for example, limitation of forces and speeds. Danger can arise for users, however, if not used as intended.


Installation, maintenance and repairs on the DFA 127 may only be carried out by qualified and authorised personnel.

### 2.1 Use as intended

The DFA 127 swing door operator is designed exclusively for the normal operation of swing doors in dry rooms, and must be installed within or inside buildings.

Any different application or use extending beyond this purpose is not considered to be use for the intended purpose. The manufacturer declines all responsibility for any damage resulting from this; the operator alone will bear the associated risk.

Use for the intended purpose also includes observation of the operating conditions specified by the manufacturer, including the use and adjustment of the correct type of arms, in addition to regular maintenance and repair.

Unauthorised modifications to the automatic door operator will exclude any liability of the manufacturer for resulting damage.

### 2.2 General safety and accident-prevention regulations



In general, no safety devices (sensors) may be dismantled or put out of service.


The safety devices (sensors) are switched off during the learning cycle (which must only be performed by trained personnel)! Before initiating the learning cycle, it must therefore be ensured that no persons or objects are situated in the danger zone of the moving door leaves during operation in order to avoid injury or damage!


No objects must be placed in the opening zone / path of the swing door to avoid crushing and shearing points!
The safeguard against crushing and shearing strains at the side edge must be provided by the manufacturer.

## 3 Technical Data

Dimensions:
Operating voltage:
Power consumption:
Max. torque:
Opening angle:
Time delay:
Opening speed:
Closing speed:
Noise emission

## Environment condi-

tions
Temperature range:
Humidity range:

Operator $600 \times 85 \times 124 \mathrm{~mm}(\mathrm{w} \times \mathrm{h} \times \mathrm{d})$ 230V~
Standby 13 W, rated power 67 W
50 Nm
adjustable from $70^{\circ}$ to $115^{\circ}$
adjustable from 0 to 20 seconds adjustable from 3 to 20 seconds adjustable from 5 to 20 seconds -18 dB
-15 to $+50^{\circ} \mathrm{C}$
up to $85 \%$ relative humidity, non condensing

### 3.1 Permissible door leaf weights and door widths



The curves are calculated using the following formula:

$$
J=1 / 3 \times m \times b^{2}
$$

Standard arms : J max. $65 \mathrm{kgm}^{2}$ Key: J = mass moment of inertia $\left[\mathrm{kgm}^{2}\right]$
Slide arms : J max. $65 \mathrm{kgm}^{2} \quad \mathrm{~m}=$ door leaf weight [kg]
$\mathrm{b}=$ door leaf width [m]

## 4 Construction and Function

### 4.1 Construction



Key to illustration:

1 Mains connection terminals
2 Fine-wire fuse
3 NET power supply
4 ATM drive unit
5 STG control unit
6 STG connection terminals
7 Motor print MOT
8 ATE drive unit terminals

9 Slide switch S1 (rotation direction)
10 Multifunctional switch MF on STG
11 Closing spring
12 Vision panel, adjust. spring tension
13 Adjusting screw for spring tension
14 Connectors for arms (both sides)
15 Standard switch BDI
16 Status signal and Reset button

### 4.2 Functions

The record DFA 127 has been designed to close without electrical power. It can be easily opened by hand and closes using the energy stored in the spring, with the motion damped by the motor acting as a generator.
If the door operator is connected to the mains power, the opening and closing movements will be assisted by the motor.

The following functions are provided exclusively for the safety of the user:
Collision detection: If the door strikes an obstacle while opening, it stops immediately and stores the position of the impact. During the time delay, the drive briefly tries to reach the open position. Once the time delay has expired, the door closes, and, when next opened, the door passes the impact position very carefully in slow mode. This prevents a further violent impact.

Reversing: If the door strikes an obstacle when closing, it is reopened immediately.

## 5 Types of arms

### 5.1 Standard arm



### 5.2 Slide arm pulling



### 5.3 Slide arm pushing



## 6 Lever adapters for arms

The lever adapters are the joining elements between the operator drive shaft and the arm lever. They also serve as extension pieces to compensate height differences between the operator and the connector to the arms. A lever adapter 20 is included in each delivery.

### 6.1 Standard arm



### 6.2 Slide arms pulling and pushing



| Type of arms | Lever adapter <br> 20 | Lever adapter <br> 50 | Lever adapter <br> 65 | Lever adapter <br> 80 |
| :--- | :---: | :---: | :---: | :---: |
| (dimensions in mm *) | 127.808 .211 | 127.808 .212 | 127.808 .218 | 127.808 .213 |
| Standard arms |  |  |  |  |
| A | 8 | 38 | 53 | 68 |
| B | 15 | 45 | 60 | 75 |
| c $\left(=, D^{\prime}\right)$ | 42.5 | 72.5 | 87.5 | 102.5 |
| Slide arms pulling |  |  |  |  |
| B | 15 | 45 | 60 | 75 |
| d $\left(=, D^{\prime}\right)$ | 32 | 62 | 77 | 92 |
| E | 60 | 90 | 105 | 120 |
| Slide arms pushing |  |  |  |  |
| a | 8 | 38 | 53 | 68 |
| b | 15 | 45 | 60 | 75 |
| e $\left(=, D^{\prime}\right)$ | 60 | 90 | 105 | 120 |

* The measurements indicated refer to the lower edge of the operator. If the measurement is taken from the lower edge of the chassis, $\mathbf{+ 1 . 5} \mathbf{~ m m}$ must be added


## 7 Installation plan for standard arms



| Standard arm | Lintel dimension $X$ | Article number |
| :--- | :---: | :---: |
|  | (in mm ) |  |
| SG 1 | $0 \ldots 120$ | 127.808 .184 |
| SG 2 | $100 \ldots 220$ | 127.808 .215 |
| SG 3 | $210 \ldots 330$ | 127.808 .216 |

### 7.1 Chassis



## 8 Installation plan for slide arms

### 8.1 Slide arm pulling



### 8.2 Slide arm pushing



| Standard arm | Lintel dimension X | Article number |
| :--- | :---: | :---: |
|  | (in mm ) |  |
| GG | $+/-10$ | 127.808 .183 |

## 9 Assembly dimension diagrams

### 9.1 Dimension diagram 1 for standard arms



### 9.2 Dimension diagram 2 for standard arms



## Dimensional assembly diagrams

### 9.3 Dimensional diagram 1 for slide arm, pulling and pushing



## Dimensional assembly diagrams

### 9.4 Dimensional diagram 2 for slide arm, pulling and pushing



## 10 Adjustment possibilities for arms

### 10.1 Angle adjustment

The serration of the level adaptor allows a step-by-step adjustment of the angle $\left(6^{\circ}\right)$.


CAUTION: The connecting screw between the operator and the lever arm must be tightened firmly, and must be checked constantly.

It is recommended to tighten the connecting screw after the final adjustment.

### 9.2 Length adjustment

The length of the standard arms can be adjusted in a certain range for optimal fit to the lintel depth. The two marked screws thereby have to be loosened with a 5 mm Allen key. The profile must be relocated to set the lever to an angle of about $90^{\circ}$ to the door leaf.

CAUTION: All screwed connections must be firmly tightened!


To lower the initial load, the lever arm can be adjusted at an angle of $6^{\circ}$ in the counter rotation sense of the opening.


## 11 Installation and commissioning

### 11.1 Checking the installation site

- Does the door leaf move easily over its entire swing range?
- Does the door leaf drop cleanly into the lock?
- Have all damping devices been removed (not simply reset)?
- Is the base on which the DFA 127 is to be mounted sufficiently stable? The chassis must lie as flat as possible. Coarse unevenness must be cleared or the bearing area must be made more powerful or be strengthened by means of additional plates.



### 11.2 Positioning the DFA and arm

- Mark the drilling positions on the template according to the type of installation, the mounting plate and the arm
- Fix the template to the corresponding position
- Drill the boreholes. After the first borehole the chassis can be used as template


### 11.3 Mechanical installation of the DFA

A
The casing must not be opened or disassembled due to the possibility of injuries caused by spring tensions being suddenly released.

- Dismount the power supply and gear drive unit of the operator
- Fix the mounting plate, place the cables in position and mount any flexible connections.



## 11 Installation and commissioning

- Assembly of the ATM operator module

- Fix the NET mains supply and connect the connector cables to the STG controller.

- Prepare the arms (refer to: 10 Adjustment of the arms), fix the arms in correct position with regard to the DFA, screw the arms to the door leafs and adjust the angle $\left(90^{\circ}\right)$ of the arms to the door leaf



## Installation

### 11.4 Adjustment of the initial spring tension (EN 4 to EN 6)

Depending on the width of the door leaves, the spring force must be adjusted corresponding to EN 1154 in the range of EN 4 to EN 6. The adjustment range can be taken from the table in chapter 3.1 based on the width of the door leaf. Wind loads, under/over-pressure and other environmental conditions must be taken into account during the adjustment.
The door operator is set to a minimal spring force on EN 4 in the factory. This is appropriate for door leaf widths from 950 to 1100 mm .
If the width of the door leaf is $1,100 \mathrm{~mm}$, for example, an additional maximum permissible door leaf weight of approx. 160 kg can be selected.


Turning the adjusting screw (SW13) clockwise increases the initial spring tension.
The white marking in the vision panel relates to the scale underneath.

- The correct setting of the initial spring tension is necessary for the proper opening of the door without the mains supply.
- An unsuitable initial spring tension can cause malfunctions!


### 11.5 Checking the mechanical functions

- Are the arms fixed at the correct angle to the door leaf? (See chapter 10 Ad justment possibilities for the arm)
- When moved by hand, does the door leaf move easily over its full swing?
- Does the operator damp the opening by spring force? If not, the slide switch position S1 on the motor print MOT must be changed.


The switch position is set according to the direction of rotation of the arm while closing. If, for example, the arm moves away to the left when closing, the slide switch must be set to the left.


## Installation

- Does the DFA work as mechanical door closer?
- With slide arms: Acceleration before definite closing visible?


### 11.6 Connecting the sensors, electrical door openers

- Connect the radar, the optical sensor-strips and the electric door openers (electrical door openers must have a suppressor diode) with the power switched off.


### 11.7 Preparation



Read and pay attention to safety instructions (chapter 2)!


1. Interrupt the power supply with the main switch or power plug
2. The power supply cable must be connected to the power supply DFA (feed the cable to the connectors complete with its sheath)
3. Check the wiring according to general schematic diagram 127.108.904

$\theta$The power supply must be fused with max. 10 A .

### 11.8 Checking the settings

1. Position the jumpers for the required function according to chapter 13, Operating Instructions
2. Check the external jumpers for auxiliary units that are not connected, such as EMERGENCY STOP, SIS, SIO

3. SIO / SIS (if present) must be connected and adjusted before the calibration run.


## 12 Commissioning

### 12.1 Commissioning

## Legend:

M Master-operator
S Slave-operator
MF Multifunctional switch on controller
FPC record programming device (Flash-Programmer)

| Operator | Instructions | Description |
| :---: | :---: | :---: |
| $\mathbf{M + S}$ | Operators are turned off |  |
| M+S | Adjust initial spring tension | Procedure according to chapter 11.4 and table in chapter 3.1 |
| M+S | Check that the switch for direction of rotation is adjusted correctly | Setting according to chapter 11.5 The arms must not be connected to the operator |
| $\mathbf{M + S}$ | Check that the CAN-connection has been made over the CANinsulation |  |
| M | Check that Jumper 13 is set to M1 on STG | HW detection for Master STG |
| S | Check that Jumper 13 is set to $\mathbf{S 1}$ on STG | HW detection for Slave STG |
| M | Switch operator to manual mode | With operation switch BDI |
| M+S | Turn on operators |  |
| M+S | MF 8. light pulse | Load default parameters |
| M | MF 6. light pulse FPC 902: Master / Diagnostic / Door parameters | Separate the arm from the operator! <br> Carry out the spring learning. Check the spring value and readjust if necessary. |
| M | FPC 902: Master / Parameter / Drive / Arms | Check the correct settings of type of arms |
| S | MF 6. light pulse FPC 902: Slave / Diagnostic / Door parameters | Separate the arm from the operator! <br> Carry out the spring teaching. Check the spring value and readjust if necessary. |
| S | FPC 902: Slave / Parameter / Drive / Arms | Check the correct settings for the type of arm |

## Commissioning

| $\mathbf{M + S}$ | Turn off the operator |  |
| :---: | :--- | :--- |
| $\mathbf{M + S}$ | Mount arms | Approx. $6^{\circ}$ initial tension |
| $\mathbf{M + S}$ | Check that the retarding effort while <br> closing without mains supply is cor- <br> rect | Turn on the operator <br> turn on the Slave first. |
| $\mathbf{M + S}$ | Set the locking mechanism and <br> door type | With operation switch BDI |
| $\mathbf{M}$ | Switch to manual mode | Connect the sensor-bars SIO, SIS <br> (if available) <br> erly, because they are adjusted <br> during the calibration run. |
| $\mathbf{M + S}$ | Start the calibration run |  |
| $\mathbf{M}$ | MF 3. light pulse | Start the calibration run |
| $\mathbf{S}$ | MF 3. light pulse | Connect the sensors and actuators <br> to AKI/AKA if present |
| $\mathbf{M + S}$ | Final settings of the operators |  |
| $\mathbf{M + S}$ |  |  |



For Master / Slave- installations, also refer to chapter 16


The door must not be obstructed in any way during the calibration run.


In case of uncontrolled door motion, immediately disconnect the mains power supply by turning off the main switch or unplugging the mains power plug.

## Commissioning

### 12.2 Checking the LEDs on the STG

Check LED 1... 3 according to the table in chapter 13.

### 12.3 Checking the BDE functions and actuation devices

## BDE position $\langle\downarrow$ (permanently open)

1. Door must open and remain open
2. Check the movement characteristics
3. Door cannot be moved by hand when open

## BDE position (locked)

1. Door must close
2. Check the movement characteristics
3. Check locking if present (see chapter 17 for status message for malfunction)
4. Pressing a second time initiates the SSK opening
5. SSK must release (if present)
6. AKI and AKA must not operate

BDE position (one-way traffic)

1. AKI and SSK must operate
2. AKA must not be triggered when the door is closed

### 12.4 Programming door speeds and hold-open times

The possibilities are described in chapter 13, " operating instructions "

### 12.5 Configuration of specific customer settings

The possibilities are described in chapter 15, "configurations"
All modifications must be entered on the configuration sheet (located in the operator)

## Commissioning

### 12.6 Safety check

1. BDE position $\Leftrightarrow$ (automatic mode)
2. Open door (e.g. with AKI)
3. Operate a safety device while closing. Door must re-open.
4. The same check must be performed with every safety device present.

### 12.7 Checking automatic reverse

1. Obstruct door while closing. The door must reverse. When the door next closes it moves at creep speed past the obstruction point.
2. Obstruct the door while opening. The door stops for hold-open time and closes. When the door next opens it moves at creep speed past the obstruction point.

### 12.8 Touch control (push to actuate)

See about the configuration in chapter 15. By pressing lightly on the door, a door-opening will be initiated.

### 12.9 Checking the functions of the DFA

- Check all the DFA functions
- Tighten the arm screw


### 12.10 Hand over to the client

- Instruct the client
- Hand over the operating manual
- RESET demonstration


## 13 Operating instructions

### 13.1 Controls on the STG 127

## General:

The STG 127 operates with an active HIGH level, i.e. a +24 V level must be applied to activate a function. Safety inputs are activated during interruptions.
The signal ground $(0 \mathrm{~V})$ is connected to the protective earth.

## Jumpers:

J14:
Master / Slave
jumper at position M1 for master (factory setting) jumper at position S1 for slave
J13: CAN line termination

## LED's:

LD1: (red) Control LED for push-button operation (S1)
LD2: (green) +35V
Off for power failure
LD3: (green) +24V
Lights up if +24 V present.
Caution: in the event of a power failure a processor reset takes place 1 second after this LED goes out.

## Operating instructions

## Key (S1):

This is a multifunctional key.
The selection of the function is carried out by the control LED according to the following table:

| Release key while: | Function: |
| :--- | :--- |
| $1^{\text {st }}$ light pulse on LD1 | AKI |
| $2^{\text {nd }}$ light pulse on LD1 | Learn door parameters |
| $3^{\text {rd }}$ light pulse on LD1 | Configuration mode on |
| $4^{\text {th }}$ light pulse on LD1 | * Learn spring type |
| $5^{\text {th }}$ light pulse on LD1 |  |
| $6^{\text {th }}$ light pulse on LD1 |  |
| $7^{\text {th }}$ light pulse on LD1 | Default parameter loading of door type <br> (TT) |
| $8^{\text {th }}$ light pulse on LD1 | ** Factory setting of programming and <br> configuration |
| $9^{\text {th }}$ light pulse on LD1 ** | Hardware reset (new start of control) |
| Press key for approx. 13 seconds |  |

* Learn spring type must be carried out without connection to the door leaf! (Before initiating this function, the arms must be dismounted, i.e. the door leaf must not be connected to the operator!!).

If a control unit is changed, this function must be initiated!
** In order to definitively carry out this function, a Reset must be initiated within 9 seconds (for example, with BDE-D, FPC 902, Test box). This can also take place on the DFA 127 via an EMERGENCY STOP.

## Operating instructions

### 13.2 Functions of the BDE-D electronic controller (optional)



The BDE-D electronic controller is an easily operated input and output device for the control and adjustment of record door operators. Logically arranged pushbuttons allow intuitive operation and navigation through the operatorspecific menu. The LCD with backlight shows data and information about the door status with symbols and text messages.
Additional information can be found in the BDED manual (No. 903108 983).

## Automatic / AUTO

Normal function
Table of signals (X marks a release reaction)

|  | Closed | Opening | Open | Closing |
| :---: | :---: | :---: | :---: | :---: |
| AKI | x | x | x | x |
| AKA | x | x | x | x |
| SSK | x | x | x | x |
| SIO |  | x | x | x |
| SIS |  |  | x | x |
| TIPP | x |  |  |  |

## One-way traffic / EXIT

In the one-way traffic mode people cannot enter the room from the outside but can leave it from the inside.
Table of signals (X marks a release reaction)

|  | Closed | Opening | Open | Closing |
| :---: | :---: | :---: | :---: | :---: |
| AKI | x | x | x | x |
| AKA $^{*}$ |  | x | x | x |
| SSK | x | x | x | x |
| SIO |  | x | x | x |
| SIS |  |  | x | x |
| TIPP |  |  |  |  |

[^0]
## Operating instructions

## Manual operation / HAND

The door can be opened and closed by hand. The manual operation mode can be adjusted individually with 6 parameters. The description of the parameters is found with the parameters.

Open continuously/ OPEN
The door is opened and stays open.

## Locked

The locking is activated in the Locked operation mode.
Table of signals ( X marks a release reaction)

|  | Closed | Opening | Open | Closing |
| :---: | :---: | :---: | :---: | :---: |
| AKI |  | x | x | x |
| AKA |  | x | x | x |
| SSK | x | x | x | x |
| SIO |  | x | x | x |
| SIS |  |  | x | x |
| TIPP |  |  |  |  |

## OFF

This operation mode can be used only in the USA. The operator is switched to manual operation (without configurations). An SSK opening is possible, but only under surveillance because some monitoring functions are disabled. Functions like parameter settings, Flash-update, ... continue to work.
Table to signals ( X marks a release reaction)

|  | Closed | Opening | Open | closing |
| :--- | :--- | :--- | :--- | :--- |
| AKI |  |  |  |  |
| AKA |  |  |  |  |
| SSK | x | x | x | x |
| SIO |  |  |  |  |
| SIS |  |  |  |  |
| TIPP |  |  | x | x |
| BODYG |  |  | x | x |
| RAILB |  |  |  |  |

## RESET

After pushing the button for approx. 5 seconds, this status message on the display will read:

| No |
| :---: |
| Reset Operator? |
| Yes |

Push on the button again to reset the operator.

## 14 Mech. control elements and indication



1 Mechanical BDI with 3 positions (control toggle switch)
2 Reset button
3 Status signal

## Mechanical BDI (control toggle switch)

The following operational modes can be set up with the 3-position toggle switch on the side cover:

## Manual operation <br> 

In this operation mode, the DFA works as a normal door-closer. It can easily be opened manually, and then closes automatically. The connected actuating elements are inactivated.

## Automatic



The door opens and closes automatically, either through the activation of an actuating element or by pushing with activated touch control.

## Continuously open <br> 

The door opens and remains in the open position. If an obstacle is encountered while opening, the DFA will attempt to bring the door to the set open position for the next few seconds. If the obstacle is still present, the current position will be accepted as the continuously-open position.

## Operating instructions

With the factory default setting, the mechanical BDI is always connected and active on a DFA 127. If an additional electronic BDE-D is connected, the operating mode will be set at the highest priority by a defined priority structure in the BDE.

The priority and the code shown in the following table apply to the operating mode, whereby BDE2 (S2) and BDE1 (S1) represent the two STG input terminals ( $\ddagger \mathrm{J} 7 / 1+\mathrm{J} 7 / 2$, Print BDE-M) for the mechanical BDE:
( $\mathrm{L}=$ interruption or $0 \mathrm{~V}, \mathrm{H}=+24 \mathrm{~V}$ )

| Mechanical BDI (toggle switch) |  | Electronic BDE-D |  |
| :--- | :--- | :--- | :--- |
| BDE2 (S2) | BDE1 (S1) | Function | Priority (1=highest) |
|  |  | locked | 1 |
|  |  | one-way | 2 |
| L | H | continuously open | 3 |
| H | L | manual | 4 |
| L | L | automatic | 5 |

The BDE-D indicates the current operating mode.
If an operating mode that has no current priority is set on the BDE-D, status message 62 is displayed.

## Reset button

If this button is held down for approx. 5 sec. a re-start of the control is carried out (software reset). The LED lights up permanently after the reset.

## Status signal

Remains off if no fault is present.
Blinks if a fault is present (see Status and Fault Signals / chapter 17)
Lights up continuously during a reset.

## 15 Configurations

### 15.1 Parameter Overview

Factory settings: Basic operator (Full Power)


| Order number: | Client: |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Programming by end customer/changes | Date | Initials |  |  |  |  |  |

[^1]
## Configuration

Configurations of the DFA 127 can only be made with the electronic BDE-D or the optional Testbox. If a toggle switch is connected, a BDE-D or Testbox must be connected briefly for the configuration.
Please always leave the configuration review sheet in the drive even when the STG is replaced!

### 15.2 Parameter Description

| Parameter | Setting range | Factory default | Description |
| :---: | :---: | :---: | :---: |
| DRIVING CYCLE |  |  |  |
| Closing speed | $\begin{gathered} 0-40 \\ (5-20 \mathrm{~s}) \end{gathered}$ | 18 | Slider control with 40 steps |
| Opening speed | $\begin{gathered} 0-40 \\ (3-20 \mathrm{~s}) \end{gathered}$ | 36 | Slider control with 40 steps |
| Acceleration | $\begin{gathered} 0-40 \\ (40=\text { max. }) \end{gathered}$ | 36 | Influences the start-up behaviour while opening and closing |
| Latch check | 0-40 | 0 | Earlier slow-down while closing elongates the length of run with minimal possible closing speed in the area of the last $20^{\circ}$ (e.g. safeguarding against shearing edge) |
| TIME DELAY OPEN |  |  |  |
| Time delay open | $\begin{gathered} 0-40 \\ (0-60 \mathrm{~s}) \end{gathered}$ | 2 | Effective with AKA, AKI and push to actuate <br> $0-20$ : Steps of 1 s <br> 21 - 40: Steps of 2 s |
| Time delay SSK | $\begin{gathered} 0-40 \\ (0-60 \mathrm{~s}) \end{gathered}$ | 4 | Effective with SSK $0-20$ : Steps of 1 s 21-40: Steps of 2 s |
| DRIVE |  |  |  |
| Opening angle | 0-40 | 35 | The opening angle is estimated during the calibration run and is equivalent to the value of 40 |
| Collision | 0-40 | 20 | Influences the force for the reversing <br> 0: weak <br> 40: strong |
| Brake | Without | Without | No brake integrated or no brake wanted |
|  | Closing position |  | Holding brake with closed door |
|  | Opening position |  | Holding brake with open door |
|  | Open/clos ed position |  | Holding brake with open and closed door |

## Configuration

| Parameter | Setting range | Factory default | Description |
| :---: | :---: | :---: | :---: |
| Types of arms | Standard arm | Sliding pulling | Standard arm for pushing opening |
|  | Sliding pulling |  | Sliding arm for pulling opening |
|  | Sliding pushing |  | Sliding arm for pushing opening |
|  | Inheader |  | Special application (for USA only) |
| Inverse | Disabled | Enabled | Opening of the door by spring tension in case of power failure. |
|  | Enabled |  |  |
| Spring type | Display only | EN 4 | Springiness value is estimated during calibration run (MF 6. light pulse). Control with FPC 902: <br> Spring type: EN 4: value from 35-41 <br> EN 5: value from 42-59 <br> EN 6: value from 60-89 <br> Display Unknown, if the value could not be estimated or lies out of range. |
| Limit open | Disabled | Enabled | Enabled: The door is hold stronger in the open position. |
|  | Enabled |  |  |
| ENTRANCE SYSTEM |  |  |  |
| Fire alarm | Disabled | Enabled | Enabled: specific adaptation for the requirement of the EN-norms for fire doors. |
|  | Enabled |  |  |
| Control | Single control | Single control | This setting is effected automatically under operating conditions. Simulation or Master/Slave-Control can be set with the FPC 902. |
|  | Master control |  |  |
|  | Slave control |  |  |
| Interlock type | Without interlock | Without interlock | Function not yet integrated |
| Door type | Basic operator | Basic operator | Frequently-used door types can be chosen for specific applications. |
|  | USA |  |  |
|  | USA Low Energy |  |  |
|  | UK |  |  |
|  | UK Low Energy |  |  |

## Configuration

| Parameter | Setting range | Factory default | Description |
| :---: | :---: | :---: | :---: |
| MASTER/SLAVE2 DOOR LEAVES |  |  |  |
| Function AKA | Master + Slave | Master + Slave | AKA is effective on both operators |
|  | Master only |  | Entry AKA is only effective on the Master operator, AKI and SSK are effective on both operators. One-way mode not possible. |
| Overlap | 0-40 | 5 | Only one door leaf moves in the preset overlap region. <br> During the opening, the stationary leaf waits until the moving leaf has left the overlap region $\mathbf{y}$. <br> During closing, the moving leaf waits until the stationary leaf has closed. |
| Open sequence | 0-40 | 5 | Delayed start-up of the stationary leaf |
| Close sequence | 0-40 | 20 | Delayed closing of the moving leaf All modulators at $0=$ synchronous activity. <br> Opening or closing sequence on 40: The subsequent door leaf waits until the first leaf has entirely opened or closed. With this setting, the overlap has the highest priority. |
|  |  |  |  |


| Parameter | Setting range | Factory default | Description |
| :---: | :---: | :---: | :---: |
| MANUAL CONTROL |  |  |  |
| During closing | Disabled | Disabled | Enabled: The door closes motorguided only with spring tension. |
|  | Enabled |  |  |
| When locked | Disabled | Disabled | Enabled: When the door is in the Locked operation mode, it can be opened manually. The closing does not take place automatically. (night watchman mode). |
|  | Enabled |  |  |
| When automatic | Disabled | Disabled | Enabled: When the door is in the Automatic operation mode, it can be opened manually. The closing does not take place automatically. |
|  | Enabled |  |  |
| Collision | Disabled | Disabled | Enabled: If the door leaf during closing stands still longer than 1 s , it is reopened with motor force. Active only, if a motor forced opening is allowed, e.g. Manual contro/Active Sensors. |
|  | Enabled |  |  |
| Support during closing | Disabled | Disabled | Constant: constant motor closing force during the last $10^{\circ}$. |
|  | Constant |  |  |
|  | Cumulative |  | Increasing motor closing force if the closing is obstructed during the last $10^{\circ}$. |
|  | Final bang |  | Excursive increasing motor closing force during the last $2^{\circ}$. |
|  | Slowly, cumulative |  | Slow closing with increasing motor closing force, if the closing is obstructed during the last $10^{\circ}$. |
|  | Slowly, final bang |  | Decelerated closing with excursive increasing motor closing force during the last $2^{\circ}$. |
| Active sensors | Disabled | Disabled | No sensor active |
|  | SIS disabled |  | All sensors active (including SIS) |
|  | SIS enabled |  | All sensors active (without SIS) |
| Closing speed | 0-40 | 20 | Slide control with 40 steps, setting the closing speed as it sees fit. Present locks must lock in place. This depends on the adjusted spring force. |
|  |  |  |  |


| Parameter | Setting range | Factory default | Description |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { CONTROL PAN- } \\ & \text { EL } \end{aligned}$ |  |  |  |
| Mechanical panel (BDE-M) ${ }^{1)}$ | 3-digit (AUTO) | 3-digit (AUTO) | Manual; Automatic; Cont. open Function corresponds to the symbols on the three-step rocker switch BDI on the side cover of the DFA 127. |
|  | 4-digit |  | Automatic; Manual; Con. open; Locked Adequate setting for time switch entries (e.g. SUR-V). <br> Only possible with optional BDI-M. |
|  | $\begin{aligned} & \text { 3-digit * } \\ & \text { (OFF-A) } \end{aligned}$ |  | Automatic; OFF; Cont. open |
|  | 3-digit * (OFF-M) |  | Manual; OFF; Cont. open |
|  | 3-digit * (LOCK-A) |  | Automatic; Locked; Cont. open |
|  | $\begin{aligned} & \text { 3-digit * } \\ & \text { (LOCK-M) } \end{aligned}$ |  | Manual; Locked; Cont. open |
|  |  |  | * CAUTION: Function does not correspond to the symbols on the threestep rocker switch BDI on the side cover of the DFA 127. |
| $\begin{aligned} & \text { BDE-D } \\ & (\ddagger \text { Submenu) } \end{aligned}$ |  |  |  |
| Language | Deutsch | English | Language for the text output |
|  | Français |  |  |
|  | English |  |  |
|  | English US |  |  |
| Keyboard | Normal | Normal | Standard-Function (not for the USA) |
|  | OFFMode |  | Special mode according to the description in chapter 13.2. The Locked mode is replaced by OFF. |
| Contrast BDE 1 | 0-40 | 0 | Contrast setting for the BDE 1 display. |
| Contrast BDE 2 | 0-40 | 0 | Contrast setting for the BDE 2 display. |
| Light time | 0-40 | 0 | Length of time for backlight: <br> 0 : $\quad$ No backlight <br> 1-39: Corresponds to 1-39 s after pushing a key on the BDE-D <br> 40: Continuous backlight |
|  |  |  | Changes to the setting of the BDE-D are only effective after a restart. |

## Configuration

| Parameter | Setting range | Factory default | Description |
| :---: | :---: | :---: | :---: |
| LOCKING |  |  |  |
| Locking function | Normally locked | Normally locked | The VRR interlock is operated with the Lock button on the BDE-D or via the Lock position of the switch on the BDE-M. |
|  | Always locked |  | The interlock VRR is permanently active and unlocks before opening with each connected actuator. |
| Lock type | Standard | Standard | For the standard electronic lock (e.g. eff-eff). The operator holds the door closed until the lock is unlocked. It remains actuated until the door is fully opened. |
|  | Locking bolt |  | Suitable for motor-lock. The operator holds the door closed until the lock is unlocked. The power remains on until the door is closed again. |
|  |  |  | The VAK input waits a max. of 5 s for indication of the reverse signal input of the lock before the door opens. |
|  | Magnet |  | Analogous to bolt-function, but without holding closed. |
|  | Pulse |  | The operator holds the door closed until the lock is unlocked. It remains actuated until the door is approx. $10^{\circ}$ opened. |
| VRR manually | Disabled | Disabled | Enabled: All the actuators are disconnected if a signal is present on the VAK input from the reverse signal input of the lock. <br> Approved for doors that are closed manually. |
|  | Enabled |  |  |
| Start delay | $\begin{gathered} 0-40 \\ (0-8 \mathrm{~s}) \end{gathered}$ | 0 | Application for motor locks without reverse signal on the input VAK. The opening is time-delayed. |
| INPUT |  |  |  |
| AUX1_IN | Disabled | Disabled | Special function, currently for the USA only. |
|  | BEA <br> Bodyguard |  |  |
| AUX2_IN | AKA | AKA | Special function, currently for the USA only. |
|  | Railbeam |  |  |

## Configuration

| Parameter | Setting range | Factory default | Description |
| :---: | :---: | :---: | :---: |
| OUTPUT |  |  |  |
| AUX1_OUT | Disabled | Disabled | Special function, currently for the USA only. |
|  | BEA <br> Bodyguard |  |  |
|  | Test sensors |  | For safety sensors with integrated test input. |
| $\begin{aligned} & \text { MISCELLANE- } \\ & \text { OUS } \end{aligned}$ |  |  |  |
| Push to actuate | Disabled | Disabled | Normal: the operator reacts only on |
|  | Normal (motored) |  | a short acceleration of the door leaf and not on slow movements caused by increasing pressure (e.g. wind). |
|  | $\begin{gathered} \text { Slow } \\ \text { (motored) } \end{gathered}$ |  | Reaction like above, but slow door opening |
|  | Manually operated with active sensors |  | The door can be opened manually. Special function, currently for the USA only. |

### 15.3 Different factory defaults for different door types

## EU Low Energy

| Parameter | Factory <br> default | Parameter | Factory <br> default |
| :--- | :---: | :--- | :---: |
| DRIVING CYCLE |  | MANUAL CONTROL |  |
| Closing speed | 10 | During closing | Enabled |
| Opening speed | 20 | Collision | Enabled |
| Acceleration | 15 | Closing speed | 10 |
| DRIVE |  |  |  |
| Collision | 5 |  |  |

## Parametrierung

UK

| Parameter | Factory <br> default | Parameter | Factory <br> default |
| :--- | :--- | :--- | :--- |
| MANUAL CONTROL |  |  |  |
| When locked | Enabled |  |  |
| When automatic | Enabled |  |  |

## UK Low Energy

| Parameter | Factory <br> default | Parameter | Factory <br> default |
| :--- | :---: | :--- | :---: |
| DRIVING CYCLE |  | MANUAL CONTROL |  |
| Closing speed | 10 | During closing | Enabled |
| Opening speed | 20 | When locked | Enabled |
| Acceleration | 15 | When automatic | Enabled |
| DRIVE |  | Collision | Enabled |
| Collision | 5 | Closing speed | 10 |

### 15.3 Special remarks

${ }^{1)}$ If the value 2 has been programmed and an external mechanical BDE (BDE-M) has been connected, the inputs (BDE1, BDE2) will be interpreted in a different manner. On the circuit board in the mounting set, BDI-M DFA 127 (127.808.232) is equipped with clamps that permit the external adjustment of the operation mode according to the table below.

Terminal connections on the circuit board in the mounting set:

| Input/output on <br> STG DFA 127 | Clamps on STG <br> DFA 127 | Clamp marking on <br> BDI-M |
| :---: | :---: | :---: |
| BDE 1 | $\mathrm{~J} 7 / 1$ | 1 |
| BDE 2 | $\mathrm{~J} 7 / 2$ | 2 |
| +24 V | $\mathrm{~J} 7 / 3$ | 3 |

If using the circuit board on the side cover, only the RESET button and the Status signal remain in function!

## Configurations

Function chart:

| Mechanical BDE (external BDE) |  |  |
| :---: | :---: | :---: |
| BDE2 / clamp 2 | BDE1 / clamp 1 | Function |
| L | L | locked |
| L | H | continuously open |
| H | H | manual |
| H | L | automatic |

( $\mathrm{L}=$ interruption or $0 \mathrm{~V}, \mathrm{H}=+24 \mathrm{~V}$ )

## Toggle switch BDI on the side cover or external

| BDE2 / Clamp 2 | BDE1 / Clamp 1 | Function if the <br> external mech. BDE <br> is not configured | Function if the <br> external mech. BDE <br> will be configured |
| :---: | :---: | :---: | :---: |
| L | H | continuously open | continuously open |
| H | L | manual | automatic |
| L | L | automatic | locked |

## List of parameters:

If no BDE-D is connected and the DFA 127 is connected to an electronic lock, the "Always locked" operation mode must be configured.

Menu: Locking / Locking function / Always locked

For the correct function of "Manual operation with active sensors" the function must be configured and the BDE-D or the rocker switch must be set on 토.

The door can be operated manually like a common door. For handicapped people the door can be opened by a remote control.

Menu: Manual control / Active sensors / SIS disabled or SIS enabled
Do not activate manual control with supported closing!

## Configurations

For Master/Slave operators, the input AKA can be configured so that only the Master door leaf (moving leaf) opens if there is a trigger!

Menu: MS 2-Leaves / Function AKA / Master only

## Connection of a time switch for "locked" (SUR-V)



| *Contact closed | $=$mode of operation according to the position of <br> the operation switch |
| :--- | :--- |
| Contact open | $=$ "Locked" mode of operation |

In combination with a BDE-D control unit, it is recommended to activate the control lock of the BDE-D ( or $^{m \circ}$ ).
Otherwise, the door can no longer be unlocked using an external mechanical BDE-M or external signals to the BDI-M circuit board after selection of the "Locked" operating mode if it has been locked in the meantime with the BDE-D!

## 16 Master / Slave Application

### 16.1 Use

The master / slave control allows the DFA 127 to perform sequential controls without the need for external supplementary devices. This master / slave control is used with double-leaf doors that require specific opening and closing sequences. A particular feature of the master / slave control of the record DFA 127 is that all the safety functions recognised by the DFA also function with double-leaf doors. This applies in particular to reversing, obstacle recognition, and slow mode. The two controls continuously communicate with one another via the intelligent interface between the master and the slave operator, so that any obstacle within the swing range of one door is always recognised by both drives.


### 16.2 Functions

The functions of the master and the slave operators correspond basically to those of the standard DFA.

The following points are specifically mentioned:
Obstacle recognition: If one of the doors is obstructed during opening, only the obstructed door stops. In addition, during the next opening action, only this door will open in Slow-mode. The obstacle recognition for the two door leaves therefore functions independently for each door.

Reversing: Reversing, on the other hand, affects both door leaves, i.e., both doors reverse after one of them hits an obstacle. This avoids an obstacle in the swing range being hit by both door leaves.

BDE in Master / Slave installations: The operation of a master / slave installation can only take place from the toggle switch of the master operator. All operational modes are identical with those of a standard DFA. The switch position of the master affects both the master and the slave drive, i.e., the switch position of the slave drive is ignored.

Emergency switch: If a Master/Slave installation needs to have an emergency switch, a 2-pole emergency switch must be used.
(refer to the Master/Slave wiring diagram in this manual)

## Master / Slave Applications

### 16.3 Distinctive features

For master / slave installations, note that the commissioning differs from that of the standard DFA as follows:

- The operators of a master / slave installation must be connected together via the communication line and the CAN-isolator 127.808.247 (see master / slave circuit diagram in this manual).
- With the operators of a master / slave installation, the CAN bus terminating jumper J13 must be set to Master/Slave (see Master/Slave circuit diagram in this manual).
- The actuation devices must be connected to the Master. AKI, AKA and SSK will be ignored by the Slave.
- Safety actuation devices (SIO, SIS) that are mounted on both door leaves must be connected to the corresponding operator, i.e., the SIS on the Slave leaf must be connected to the Slave drive.
- Electric locks and possibly present locking contacts (VAK) must be connected to the corresponding operator, i.e., the electric lock on the Master leaf must be connected to the Master drive.
- Using jumper J14 on the STG 127, one operator is set as Master and the other as Slave. The operator of the active door leaf must always be selected as the Master (see Master/Slave circuit diagram in this manual).
- The current feed to both operators must either be switched on simultaneously, or the Slave must be switched on first.
- The calibration run is carried out individually for each operator. During the calibration run of the Slave, the Master opens as well, so that the Slave will not be obstructed.
- The opening and closing speed is the same for both operators, and the value is transmitted from the Master to the Slave. The opening time delay is also specified by the Master in the same way. If these values are to be modified, they must therefore be set on the Master operator; the Slave will take over the values immediately.
- The opening angle and automatic reverse, can be set separately at each operator. Refer to the parameter list for the settings.
- If one of the operators should fail, it is recommended that the second operator should also be disconnected from the power feed. Both operators can then be restarted normally as described above.
- Special function for overlap, opening and closing sequence

Menu: MS 2-leaves / overlap, open sequence and closing sequence / Parameter value 1 (Speedo)

## 17 Status and fault signals

## Detail description of status indications

## General:

In case of an irregularity, the display changes automatically from operation mode level to error display. The background colour changes between normal /inverse every 2 seconds. Several errors can be displayed (e.g. 1/2 means: Error No. 1 of total 2 errors).
Status notifications with a "W" are warnings. In this case, the error relay does not switch. The status can be reset by several means according to the detailed description.

A status can usually be deleted by pressing the $\sqrt{\text { rend }}$ key for 5 seconds (= reset). This produces a restart in the control unit.
If the cause of the fault has not been eliminated, however, the status message will re-appear if the fault occurs again.

The following list gives the causes of faults in decreasing probability. The fault at the bottom of the list has the smallest probability of occurring in the STG.

## Status 3: AKI sensor active longer than 60 s

Automatically reset if everything is in order, or by service fitter

## Status 5: AKA sensor active longer than 60 s

Automatically reset if everything is in order, or by service fitter
Status 6: Unlocking error
Bolt possibly jammed
Reset by service fitter
Status 9: "Opening" unsuccessful (after 4 collisions)
Check the interlock / remove obstacle
Reset through service fitter
Status 11: Faulty motor current
Possibly faulty wiring in prefabricated cables
Replacement by service fitter
Status 23: Slave control unit defective
Replacement by service fitter
Status 25: Slave connection (CAN) to Master interrupted
Clear by service fitter
Status 31: EMERGENCY STOP operated. Motor relay de-energises
Reset by resetting the EMERGENCY STOP button
Status 37: Motor current
STG or ATE defective
Reset by service fitter

## Status and fault signals

Status 38: Overheat motorManual control effectiveDoor leaves possibly too heavy, or too much frictionReset by motor cooling down or by service fitter
Status 39: Overload on + 24 V supplyToo many external units possibly connectedReset by service fitterStatus 41: Motor - temperature sensor defectiveMotor possibly not connectedSensor in motor possibly defective or cable break in sensor leadReset by service fitter
Status 43: Incremental encoder faultInput cable possibly not connected or cable break in the leadMotor possibly blockedReset by service fitter
Status 45: Motor current - time product to high
Motor relay de-energises
Manual control effective
Automatic reset by motor cooling or by service fitter
Status 46: Control unit STG defective
Includes the following individual faults:EPROM, RAM, Watchdog, Imax, ImaxT, difference on SHE-EXTReset by service fitter
Status 47: SIO sensor active longer than 60 s
Automatically reset if in order, or by service fitter
Status 50: CPU2 is defective
Reset by service fitter
Status 51: Software version
Software version of Master and Slave do not correspond to eachother. Software update by service fitter
Status 52: No running parameter
Start calibration run
Status 53: Interruption motor
Possibly no connection to motor
Reset by service fitter
Status 54: Calibration run
Reset automatically

## Status and fault signals

Status 59: SIS sensor active longer than 60 s
Automatically reset if in order, or by service fitter
Status 60: Parameter memory (EEPROM) defective
Change control unit
Reset by service fitter
Status 61: SSK active longer than 60 s
Automatically reset if in order, or by service fitter
Status 62: BDE has no priority
Because a higher-level signal is present
Automatically reset on release of BDE-button
Status 72: Slave connection
Master has no connection to Slave operatorReset by service fitter
Status 88: Difference parameter
The common parameters of M/S operators do not correspond toeach other.
Reset by service fitter
Status 89: Master connection
Slave has no connection to master operator
Reset by service fitter
Status 90: Railbeam active > $\mathbf{6 0}$ sec.
Automatically reset if everything is in order, or by service fitter
Status 91: Bodyguard active > 60 sec.
Automatically reset if everything is in order, or by service fitter
Status 92: STG relay defective
Replacement by service fitter
Status 93: Overvoltage 24 V (from 27V)
Status 94: Spring calibration
Automatic reset
Status 95: Error in sense of rotation
Status 96: EEPROM void
Status 99: Operator rotates
The grease in the gear will be dispersed.
Automatic reset
Status 105: Test brake
Automatic reset

## Status and fault signals

Status 106: Brake defective
Reset or reset by service fitter
Status 107: SIS defective
A safety sensor (with test input) in closing direction is defective.
Reset by service fitter
Status 108: SIO defective
A safety sensor (with test input) in opening direction is defective.
Reset by service fitter
Status 109: Factory settings

Status 110: No motor
No motor detection during initialisation (motor temperature sensor).
Check motor temperature sensor.
Reset or reset by service fitter

## A status number with a " W " is a warning !!

## 18 Maintenance Instructions

The following points must be checked:

| Base fixing | Is the DFA 127 securely fixed to the backing construction? |
| :--- | :--- |
| Chassis | Is the attachment still normal? |
| Door hinge | Can the door leaf be moved smoothly? |
| Arm | Has the fixing screw of the arm been firmly tightened? <br> Function |
| Does the movement of the door give reason for dissatisfac- <br> tion? |  |
| Ciring | Are all the cables connected and have the clamping screws <br> been firmly tightened? Are all connection assemblies to the <br> motor in order? |
| Control unit | Initiation of a new calibration run |
| Check the function of all modes of operation |  |

## 19 Control references with new assembly

The following points must be checked:

| Base fixing | Is the DFA 127 securely fixed to the backing construction? |
| :--- | :--- |
| Chassis | Is the attachment still normal? |
| Door hinge | Can the door leaf be moved smoothly? |
| Door leaf | Do the leaf weight and the leaf width correspond to the defaults <br> in accordance with diagram in this manual? |
| Arm | Has the fixing screw of the arm been firmly tightened? |
| Function | Does the movement of the door give reason for dissatisfaction? <br> Electric supply <br> Is the outer sheathing of the supply cable intact up to the mains <br> adaptor cover? |
| Wiring | Are all cables connected and have the clamping screws been <br> firmly tightened? Are all the connection assemblies to the motor <br> in order? |

Control unit con- Was the prescribed cable used and has it been installed cornection rectly?

Configuration Was the operator configured in accordance to the default?
Was the configuration sheet filled out and placed under the operator's casing?

Calibration run Has a calibration run been completed?
Control unit Functional check of all operation modes
Actuating devices Adjustment and functional test of motion sensors, push button, pull-switch, etc.

Safety elements Adjustment and functional test of safety cells on door leaves (SIO/SIS)

Safety functions Check external connections (fire alarm, EMERGENCY STOP, SSK)

## Control references with new assembly

The following points must be checked:
Electrical door Does the electrical door lock have enough free motion? lock

Is the diode fitted over the door lock connection?
Functional test of the electrical door lock and the monitoring (Input VAK; signal or switching contact).

Casing Have the casing and the side cover plates been installed properly?

Logo Is the record logo correctly attached?

## 20 Abbreviations

| A ABS | Absolute pulse generator | M MF | Multifunctional switch |
| :---: | :---: | :---: | :---: |
| AKA | Actuating-contact "outside" | MOT | Motor |
| AKG | Actuating-contact „common" | MP | Principal assembly |
| AKI | Actuating-contact „inside" |  | diagram |
| AS | Master wiring diagram / Circuit diagram | N NA | Emergency stop |
| ASK | Terminals inside header | NET | Power supply unit |
| ATE | Drive unit | $\begin{aligned} & \text { NS } \\ & \text { NSA } \end{aligned}$ | Main power switch Mains failure |
| B BDE-D | Electronic control unit |  |  |
| BDI | Control unit (rocker switch) | R RAD | Radar |
| BDI-M | Circuit board for mechanical control unit | $\begin{aligned} & \mathrm{S} \text { SI } \\ & \text { SIO } \end{aligned}$ |  |
| BKL | control unit LED | SIS |  |
| C CAN-H | serial data interface | SSK | Key operated contract |
| CAN-L | serial data interface | STG | control unit |
| CPU | central processing unit | STP | control pc board |
| D DFA |  | T TOE | door locking |
|  | operator | TOW | door opening |
|  | program mem |  | door open time delay |
| ES | Electrical circuit diagram | $\mathrm{U} \mu \mathrm{P}$ | Microprocessor |
| FV | Manufacturing regulation | $\checkmark$ VAK | locking contact |
|  |  | VL | wiring list |
|  |  | , | Instructions for wiring an |
| H HS | Main switch 2-pole | VRR | locking |
| IKG | Encoder |  |  |
| L LED | Light Emitting Diode |  |  |
| LD | Light Emitting Diode |  |  |
| LS | Cable plan |  |  |


| Netz 230V $50 / 60 \mathrm{~Hz}$ Sicherung 10A Anschlusswert 400W | Réseau $230 \mathrm{~V} 50 / 60 \mathrm{~Hz}$ Fusible 10A Puissance 400W | Electric mains 230V $50 / 60$ cycles Fuse 10A Power rating 400W | Bereiche für Kabelaustritte zones pour sorties des câbles areas for cable outlets |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  |  | NA $\square$ |  |  | utilisées a biffer! ! <br> drillt / fils torsadés par paires / ngueur max. $100 \mathrm{~m} /$ <br> vide, longueur max. $8 \mathrm{~m} /$ |
|  |  |  | BDE <br> VAK <br> TOE <br> RAD | Türverriegelung / verrouillage de la porte / door locking device Radar | ol unit <br> locking contact <br> locking device |
| Wichtiger Hinweis! <br> Die Anlage soll während der Nacht NIE durch einen Generalschalter vom Netz getrennt werden | * Lieferung bauseits gemäss behördlicher Vorschrift A fournier par ailleurs selon spécification officielle To be furnished by others according to official regulation |  | NA HS | Notaus-Taster 2-polig / interrupteur de secours à 2phases / emergencystop button 2-pole |  |
| Ne pas débracher le système du réseau pendant la nuit. | pendant Auftrags-/Command <br> Order-Nr/No: <br>   <br> Baustelle  | Auftrags-/Commande- $/$ Order-Nr/No: $\qquad$ | Leitungsschema <br> Schéma de câblage DFA 127 <br> Cable layout |  | Massstim $\%$ |
| Important notice! <br> The installation is not intended to be disconnected from the mains at night. | Baustelle Chantier Site |  |  |  | Soitc 1 von $2 /$ Pagc 1 do $2 /$ S $200 t 10$ |
|  |  |  |  |  | 127.109.569 A |





${ }^{1)}$ Master / Slave installation: connect on both operators

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Smith Avenue - Garrion Business Park
Wishaw - North Lanarkshire - ML2 ORY
Phone + 441698376411
Fax $\quad+441698376422$

## Hungary

## record ajtó kft

Leshegy ut 8
H-2310 Szigetszentmiklós
Phone + 3624515390
Fax $\quad+3624515392$

## Netherlands

Automatische deuren record B.V.
Cardanuslaan 30
NL-6865 HK Doorwerth
Phone + 31263399777
Fax + 31263399770

## Poland

record drzwi automatyczne Sp.zo.o.
Nowa 23 Street
Stara Iwiczna
PL-05-500 Piaseczno, Stara Iwiczna
Phone + 48227377100
Fax + 48227377008

## Spain

record Elemat S.A.
c/Francesc Vila, 20 Pol. Ind Can Magi
Apartado de Correos 185
E-08173 San Cugat del Valles
Phone + 34936742650
Fax $\quad+34936754921$

## Switzerland (Headquarters)

record Türautomation AG
Allmendstrasse 24
CH-8320 Fehraltorf
Phone + 41449549191
Fax $\quad+41449549200$

record


[^0]:    * AKA is active as safety device while closing

[^1]:    This parameter overview shows all possible settings. Depending on drive type and configuration the access is restricted.

