



# INSTALLERS MANUAL SLIDING DOOR AUTOMATION

(EN)


## SDA-04

MDA250 & MDA450  
(SW version 5.xx )

## SDA-04DCB2

MDA120  
(SW version 22.0 )

Version : October 2017  
Reference : 10.03.02 REV:03  
Type : Translation of the original Dutch document  
Order number : 201060

	<p>This user instruction manual must be used in accordance with the law of the land in which it is being used. The instruction manual must be considered as a part of the sliding door and/or automation and therefore it must be retained for consultation purposes until the equipment is finally decommissioned.</p> <p>This end-user instruction manual must be retained by the owner or manager of the project in a safe, dry place that is sheltered from the sun. It must always be available for consultation.</p> <p>In case of damage, the user must obtain a new copy of the instruction manual from Metaflex Doors Europe BV.</p>
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## Foreword

Dear Customer,

We would like to thank you for the confidence that you have placed in us by purchasing the SDA-04 / SDA-04DCB2 controller.

Installation of the SDA-04 (DCB2) should be carried out by technicians from Metaflex Doors Europe BV (MDE) or Metaflex certified personnel or authorised retailers (hereafter referred to as: distributor).

If this is not possible (check with MDE for an authorised distributor), please inform MDE in writing.

If you have any further questions after reading this instruction manual please contact us.

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## Contents

<b>1</b>	<b>General</b>	<b>6</b>
1.1	Introduction	6
1.2	Manufacturer/Distributor	6
1.3	Service/maintenance	6
1.4	Versions	6
1.5	Using the instruction manual	7
1.6	Definitions for (end) user/operator/technician	7
1.7	Explanation of symbols	7
1.8	Compliance with European directives	7
1.9	Commissioning and risk analysis	8
1.9.1	Commissioning	8
1.9.2	Risk analysis	8
<b>2</b>	<b>Description of the SDA-04(DCB2)</b>	<b>8</b>
2.1	Features of the SDA-04(DCB2) controller	8
2.1.1	Main Features	8
2.1.2	Specific features of the Metaflex controllers	8
<b>3</b>	<b>Description of the door and its control</b>	<b>9</b>
3.1	Basic rail components	9
3.2	Basic door components	9
3.3	Controller connection information	10
<b>4.</b>	<b>(Safety) regulations</b>	<b>11</b>
4.1	Mechanical safety regulations	11
4.2	Electrical safety regulations	12
<b>5.</b>	<b>Installation, maintenance and dismantling</b>	<b>13</b>
5.1	Installation	13
5.1.1	Assembly of the controller	13
5.1.2	Earth connection	13
5.1.3	Motor connection	13
5.1.4	Motor pulse generator	13
5.1.5	Connection sequence SDA-04	13
5.1.5	Configuration process	14
5.2	Dismantling	15
5.2.1	Decommissioning	15
5.2.2	Disassembly	15
<b>6</b>	<b>Accessories and options</b>	<b>15</b>
<b>7.</b>	<b>Configuration</b>	<b>17</b>
7.1	Changing and/or reviewing parameters	17
7.1.1	Viewing a parameter.	17
7.1.2	Changing a parameter	17
7.1.3	Leaving the parameter menu	17
7.2	Parameter overview (end) user	18

7.3	Installer parameter overview	20
7.3.1	Motor setup	20
7.3.2	Setting up safety devices	22
7.3.3	Speeds	23
7.3.4	Relay Settings	25
7.3.5	Input Configuration	27
7.3.6	Advanced Network and Interlock functionality	29
<b>8</b>	<b>Parameter settings (short version)</b>	<b>30</b>
8.1	Parameterlijst (eind) gebruikers	30
8.2	Parameterlijst installateurs	30
8.3	Conversion table parameters for installers 4.06 – 5.xx	33
<b>9</b>	<b>Display codes and troubleshooting</b>	<b>34</b>
<b>10</b>	<b>Fault codes and possible solutions</b>	<b>35</b>
<b>11</b>	<b>Electrical connections</b>	<b>37</b>
11.1	Input signals of the SDA-04	37
11.2	Priorities	38
<b>12</b>	<b>Technical specifications</b>	<b>39</b>
12.1	SDA-04 with AC motor	39
12.2	SDA-04DCB2 with DC motor	39
<b>13</b>	<b>Software versions</b>	<b>40</b>
<b>14</b>	<b>Connection examples</b>	<b>41</b>

# 1 General

## 1.1 Introduction



This manual applies to the SDA-04 and SDA-04DCB2 controllers.  
Software 5.xx and above is required for the SDA-04 and 20.0.0 for SDA 04DCB2.  
(This will be shown on the display while the controller starts up)

The manual consists of 14 chapters.  
The Metaflex controllers comply with current safety regulations.

Please read the mechanical and electrical safety regulations below before installing the door and/or controller. Retain this instruction manual carefully so that it may be used for future reference at any time.

## 1.2 Manufacturer/Distributor

**Manufacturer:** Metaflex Doors Europe BV  
Ambachtsstraat 11  
7120 AH Aalten  
The Netherlands  
[www.metaflexdoors.com](http://www.metaflexdoors.com)

**Distributor:**

**Technical Dossier Management:**  
Metaflex Doors Europe BV (Product Development Department)

## 1.3 Service/maintenance

In case of problems, faults or questions, please contact:

Metaflex Service	Telephone	+31 88 1414 602*
	E-mail	<a href="mailto:service@metaflexdoors.com">service@metaflexdoors.com</a>

\* For service outside the Netherlands, please contact your local distributor.

## 1.4 Versions

**The SDA-04 is available in 2 versions:**

SDA-04 : This is suitable for controlling 3-phase AC motors.  
SDA-04DCB2 : This is suitable for controlling 24V DC motors.

For technical specifications, see "TECHNICAL SPECIFICATIONS".

## 1.5 Using the instruction manual

Read these instructions carefully before installing the sliding door.  
Retain these instructions so that you can consult them later if necessary.  
These instructions are written for the door installer.

The user will use a separate instruction manual for use of the door.







## 1.6 Definitions for (end) user/operator/technician

(end) user : Anyone who makes use of the door.

Operator : A trusted user who is familiar with all safety aspects mentioned in this instruction manual. The operator should not carry out any installation work activities unless specifically tasked and authorised.

Technician : The technician is a Metaflex technician (or a technician that has been provided with express written permission from Metaflex) who is qualified to perform engineering tasks on the door.

## 1.7 Explanation of symbols

	STOP	To avoid personal injury, follow the safety regulations implicitly
	INFORMATION	Additional information is available
	WARNING	It is essential that this instruction is carried out carefully
	WARNING	Dangerous voltage
	WARNING	Danger of entrapment
	WARNING	Danger of crushing injuries to hands and/or fingers

## 1.8 Compliance with European directives

The installation is in accordance with the following EU directives:

2006/42/	EC	Directive on machinery
2014/30	EC	Directive on EMC (electromagnetic compatibility)

The CE mark is affixed to the heading style of the door.

## **1.9 Commissioning and risk analysis**

### **1.9.1 Commissioning**

Check the earth connection prior to the commissioning of the controller.

If there is no earth connection, the controller must not be commissioned under any circumstances.

### **1.9.2 Risk analysis**

A user of an automatic system is required to carry out a RIE (Risk Inventory and Evaluation).

With respect to an automatic door, this consists of two things:

- 1: A list of all (health and safety) risks related to the use of the door.
- 2: A plan for their resolution.

## **2 Description of the SDA-04(DCB2)**

### **2.1 Features of the SDA-04(DCB2) controller**

#### **2.1.1 Main Features**

The main features of the SDA-04(DCB2) controller are:

- Usability
- High level of safety (active safety equipment)
- Automatic restart and calibration after power failure (SDA-04)
- Low noise level

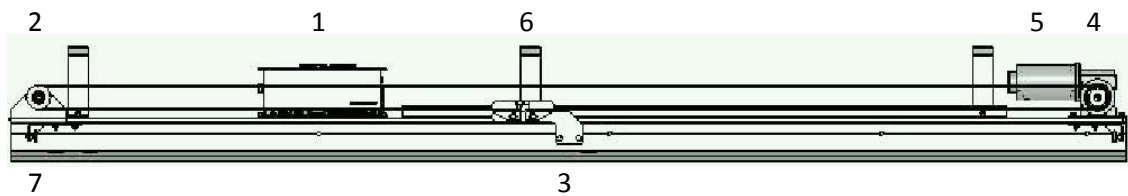
#### **2.1.2 Specific features of the Metaflex controllers**

- The Controller is "auto-adaptive" which means that, for example, in the event of a power failure or an opening/closing movement, the door will carry out a complete configuration.
- When opening the door using the handle, the door will operate fully automatically after a few centimetres (adjustable). As a result, even the heaviest doors can be easily opened by hand.
- The controller contains a self-monitoring system. If a fault is detected, the controller displays the nature of the error by displaying an error code on the display. The displayed "service" code can be used to help identify the cause of the fault. This can help avoid long searches for a fault.
- Various types of switches and sensors can be connected to the door so that the door can be placed into pre-set positions. (open, half open, locked, one-way (only from inside to the outside))
- Emergency release in the event of being locked in, for example, using a break glass sensor.
- Connectivity to the access control, intrusion alarm and/or fire detection system.
- A sluice function is also possible (available from the SDA-04/SDA-04DCB2 that is equipped with the "advanced" software package). This function ensures that two or more doors that are affected by this function will not open at the same time. This minimises over-pressure, heat loss and the movement of dust and bacteria. This sluice function can be disabled by an (optional) switch to ensure both doors can be opened in an emergency.



### 3 Description of the door and its control

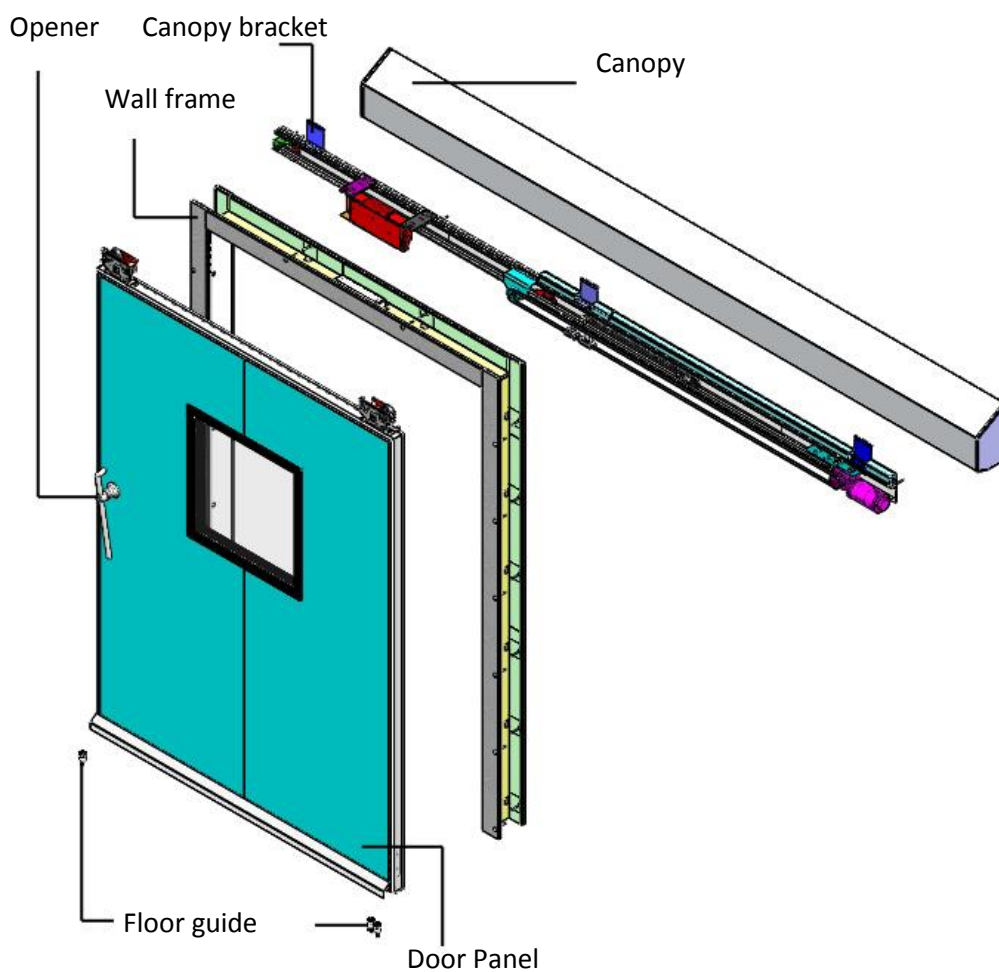
#### 3.1 Basic rail components



##### Legend

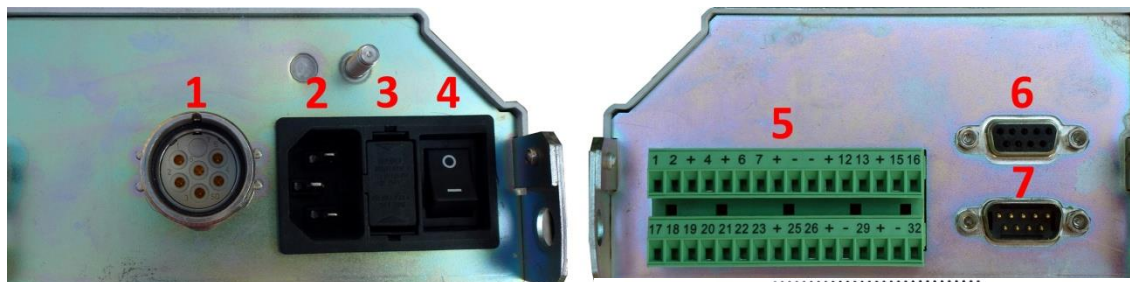
- 1. SDA-04/SDA-04DCB2 controller (Display is visible from the door opening)
- 2. Return wheel
- 3. Driver + toothed belt tensioner
- 4. Reducer gearbox
- 5. (AC) motor equipped with pulse generator for frequency control
- 6. Canopy bracket
- 7. Running rail

#### 3.2 Basic door components



### 3.3 Controller connection information

#### SDA-04

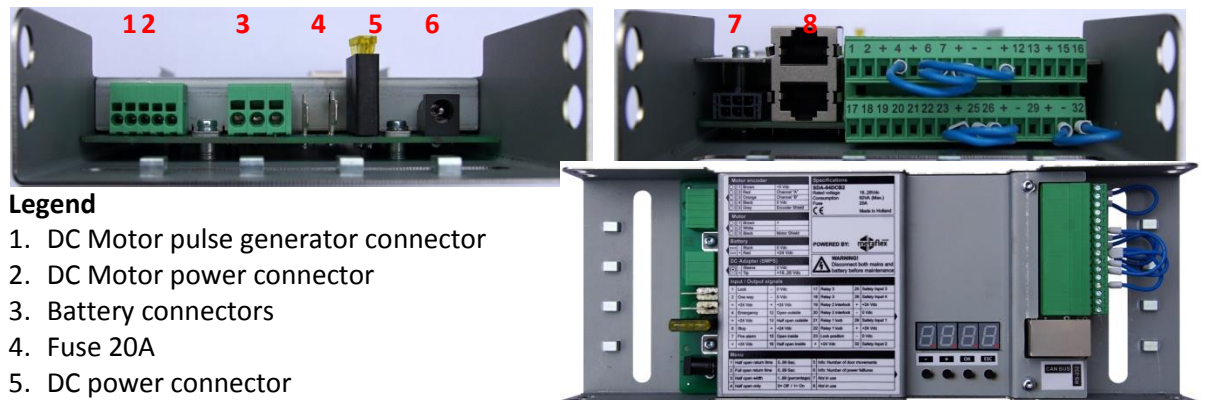


#### Legend

1. phase motor connector
2. Mains inlet
3. Fuse holder
4. On-off switch
5. Input and output control
6. RS-232 port (to be made use of by MDE/Distributor technician)
7. AC Motor pulse generator connector

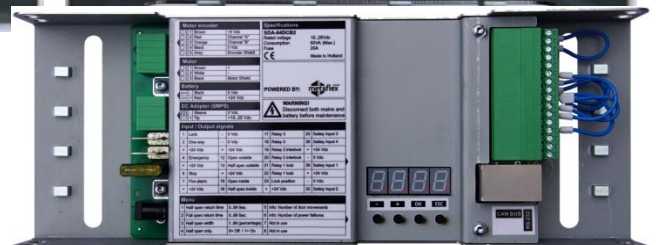


#### SDA-04DCB2








#### Legend

1. DC Motor pulse generator connector
2. DC Motor power connector
3. Battery connectors
4. Fuse 20A
5. DC power connector
6. RS-232 port (to be made use of by MDE/Distributor technician)
7. CAN Bus interface
8. Input and output control





## 4. (Safety) regulations

### 4.1 Mechanical safety regulations

	<p><b>Assembly &amp; Repair/Maintenance:</b> When carrying out any work activities, always switch off the controller and place warning signs so that the door cannot be operated by mistake.</p> <p>All work activities may only be carried out by qualified personnel in compliance with the applicable legal regulations and provisions.</p>
    	<p><b>Operation:</b> <u>During opening: Ensure that there are no obstacles in the sliding area.</u></p> <p><b>Protect hands and fingers against crushing hazard:</b></p> <ul style="list-style-type: none"> <li>• Between the end-stop and the door.</li> <li>• Between the wheels and the rail.</li> <li>• Between the wall frame and the recessed hand grip in the form of a cup on the inside of the door panel.</li> </ul> <p><u>During closing: Ensure that there are no obstacles in the door opening.</u></p> <p><b>Beware of the potential crushing of body parts:</b> E.g. By trying to squeeze through a small opening between the door and the frame at the last moment when it is closing.</p>
	<p><b>Extra safety measures in particular situations:</b> When the sliding door is used in a non-industrial environment by children, disabled or elderly people, the fitted safety features must conform to EN16005.</p> <p>Doors must be fitted on both sides with an Active Infrared Sensor in accordance with EN16005. If the sliding space is smaller than 40cm, there should also be a sensor present here.</p> <p>If the target group is making use of the door and the safety features have been removed or disabled, take the door out of operation and contact MDE.</p>

## 4.2 Electrical safety regulations

- **ATTENTION:** This device operates using mains power.
- The device must never be opened.
- Defective devices should be sent to MDE for repair.
- Fuses that have blown must always be replaced with the specified type.
- To connect the device to the mains, the supplied power cord must always be used.
- The power cord must only be connected to an earthed outlet socket.
- The device may only be used with the specified motors.
- Only cable/motor combinations approved by Metaflex may be used and the maximum cable length should be 3-3.5 meters.
- The motor cable must not be extended.
- The maximum cable length for any remaining input and output cables that are to be connected is 30 meters. For distances greater than 30m, the signal should be switched via a relay that is closely located to the SDA-04 controller.
- Modifications to the SDA-04 controller are not allowed. Modifications to the device can hamper the functioning and safety performance of the device.
- Settings that are relevant to safety must not be changed.
- The device may only be used within the specified environmental conditions. Outside the specified environmental conditions, safety cannot be guaranteed.
- If the environmental conditions cannot be guaranteed, the controller must be placed in a suitable housing (within which the conditions must meet the technical specifications).

	<p><b>Liabilities</b></p> <p>Security equipment not supplied by Metaflex can cause damage to the controller. Claims under the factory warranty are not possible in this case.</p> <p>Although MDE has taken the utmost care to ensure the protection of the controller and the monitoring of circuit breakers, all claims arising from the failure of a safety switch will be rejected.</p>
	<p><b>Repair</b></p> <p>Repairs may only be carried out by MDE/Distributor.</p>

## 5. Installation, maintenance and dismantling

### 5.1 Installation

#### 5.1.1 Assembly of the controller

The SDA-04 controller must always be fitted with the heatsink on top. Take care to ensure that the heat produced by the controller can be dispersed sufficiently. The SDA-04DCB2 has no external heatsink. The above is therefore not applicable.

The controller has two attachment points on the top and bottom. These can be used to attach the controller to the rail and within an external housing.

#### 5.1.2 Earth connection



The earth connection on the left side of the SDA-04 controller must be connected to the aluminium rail upon which the door is hung. The controller must be connected to the mains power supply using the earthed socket provided.

#### 5.1.3 Motor connection



The motor is connected via a shielded round connector (plug connector for the SDA-04DCB2). The outer ring of the connector must always be firmly screwed onto the controller (tighten screws by hand; do not use tools).

- 1) In connection with EMC and electrical safety, the device must not be switched on if the outer ring is not screwed on properly.
- 2) In connection with EMC, the motor cable should never be extended.

#### 5.1.4 Motor pulse generator



The motor pulse generator must be connected on the rear SUB-D connector to the right side of the controller (Plug connector for SDA-04DCB2).

- 1) In order to prevent uncontrolled movement of the door, the controller must never be enabled if the pulse generator is not connected.

#### 5.1.5 Connection sequence SDA-04

1	Motor connector
2	Pulse generator connector
3	Connect safety equipment, control switches and other options using the green connectors on the SDA-04 (DCB2) controller according to the wiring diagrams (see annexes)
4	230VAC/50Hz power supply by means of the power cable supplied
5	Switch on the power supply (SDA-04DCB2 has no mains power switch)
6	Set parameters (configuration: door type, DIN direction, power)
7	Automatic door configuration
8	Set the desired speed, return times and/or other options

### 5.1.5 Configuration process

	<p><b>WARNING</b></p> <p>When the SDA-04 is switched on for the first time, it does not automatically begin the configuration process. Parameters 30, 31 and 32 must first be filled in.</p> <p>For the 2nd time and all times after that, the SDA-04 will wait +/- 4 sec. for input from the control panel.</p> <ul style="list-style-type: none"> <li>• No input = Configuration process begins with the old settings</li> <li>• OK button pressed = SDA-04 delays configuration process until settings can be adjusted and the "ESC" button is pressed</li> </ul>
	<p><b>Explanation of different SDA-04 terms:</b></p> <p>Configuration process : After switching on the power, the SDA-04 determines its endpoints and the minimum (power/speed) settings required to move the door.</p> <p>Threshold velocity : The minimum speed measured during the configuration process.</p> <p>Boost : A large power output that is required temporarily to start a hermetic door moving from its closed position.</p> <p>Final speed (slow) : This is the speed at which the door approaches the end point.</p> <p>Slow mode : Low speed (If a door protection feature has been activated)</p> <p>Return time : The time the door will remain open before closing automatically</p> <p>Monitoring : For each closing motion, the controller checks whether the security sensor is still working.</p>

## 5.2 Dismantling

### 5.2.1 Decommissioning

Decommissioning of the automated door must be carried out by MDE or a distributor authorised by MDE. Once this decommissioning has been completed (controller and drive mechanism has been removed), the door can be disassembled and disposed of by a third party.

### 5.2.2 Disassembly

The disassembly must be carried out by at least two persons.

Disassembly must be carried out in the following order:

1. Ensure the door has been decommissioned.
2. Manually slide the door into the fully closed position.
3. Remove the wheels (door panel is now loose!) and remove the door panel.
4. Subsequently remove the track and eventually the doorframe and the lower door guides.

## 6 Accessories and options

- **Closure/Latch**

Electrical/Mechanical balance lock.

Electrical lock operated by a magnetic latch.

Blocking by means of an electric motor interlock (parameter setting).

- **Medical grounding (conforming to NEN 3134 for S3 areas)**

If the sliding doors are required to fulfil the NEN 3134 standard, this can be achieved by attaching the rail and the fixed wall to the door frame via a cable in a cable track. This will ensure that any electrical charge will be discharged through the central earth connection. The door, rail, frame and canopy cover are mounted in such a way that they are completely isolated from the building mass.



The controller and motor are isolated and mounted on the rail and **must** be connected to the building earth by the installer.

- **Freeze Protection**

Through the provision of a continuous current in the motor drive, a high enough temperature is maintained so that no extra heating is required in the motor and the control box (minimum temperature is -30°C) Attention!!: from -25°C, the motor must be isolated.

- **Control switches, including:**

- |                                     |                   |                  |
|-------------------------------------|-------------------|------------------|
| 1. Foot switch                      | 5. Elbow switch   | 8. Pull switch   |
| 2. Key switch                       | 6. Remote control | 9. Code locks    |
| 3. Radar                            | 7. Contact mat    | 10. Card readers |
| 4. Active/passive infrared security |                   |                  |



Security equipment that is not supplied by **MDE** can cause damage to the controller. In this case, claims under the factory warranty are not possible. MDE has taken the utmost care to ensure the protection of the controller and the monitoring of circuit breakers and all claims arising from the failure of a security switch will be rejected.

- **Protection devices on the door**

Various protection devices can be connected to the door.


Possible protection devices include:

1. Entrance protection by means of one or two safety devices in the wall frame.  
Or protection based on EN16005 by means of sensors which are checked prior to each door movement operation.
2. An active safety strip on the front face of the door.
3. DMS (Deceleration Measurement System) during movement allows the controller to "detect" whether an obstacle is present. If an obstacle is detected, the door will change direction (away from the obstacle)
4. Sliding space security.




## 7. Configuration

As the (end) user of an SDA-04 or SDA-04DCB2 controller, you have the possibility to change a few parameters yourself. To this end, there are 4 push buttons on the controller "-", "+", "OK" and "ESC".

	<p>Up to the moment that you activate the controller configuration menu, the door can be operated and it may move.</p> <p>Please take note of this and take appropriate measures to prevent it.</p>
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### 7.1 Changing and/or reviewing parameters

	<p>Activating the parameter menu: Press the OK button for 4 seconds.</p> <p><b>Note</b> : During the time that the parameter menu is activated it is not possible to move the door using the motor.</p>
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After activating the parameter menu, parameter 1 will be the first to be displayed. The number to the left of the display shows the parameter number. The number to the right shows the value that has been set.

#### 7.1.1 Viewing a parameter.


Once in the parameter menu, you can view the value of the parameter by pressing the "-" and the "+" keys. The meaning of each number is shown later in this guide.

#### 7.1.2 Changing a parameter

Select the parameter you want to change.  
Then press "OK". If a parameter can be changed, it will flash.  
You can now use the "-" and "+" keys to change the corresponding parameter.  
Confirm with "OK" and press "ESC" to return to the parameter selection menu.


#### 7.1.3 Leaving the parameter menu

Leave the menu by pressing the "ESC" key twice in succession.  
The parameter menu is closed at the time that the controller returns to the home screen and no more parameters are visible.

	<p>Immediately after leaving the parameter menu, the door can be operated once again and begin moving.</p> <p>Please take note of this and take appropriate measures to prevent it.</p>
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## 7.2 Parameter overview (end) user

The following parameters can be accessed by the (end) user and changed or checked:

	<p>Note: Most parameters have a value that is set at the factory. In case of a set parameter it is marked red, underlined and placed between brackets: <b>(0)</b>. A number indicates that this value can be changed. Two dashes mean that something must be completed, four dashes mean that a value is expected.</p>
---	--

**Parameter 0 : (----) Log in to the controller (for authorised personnel only)**

- (----) Enter your 4-digit login here to access the installation menu

**Parameter 1 : (2) “remain-open” time after reaching the half-open (pedestrian) position**

This is the time that elapses between the moment the door arrives at the partly or half open position and begins the movement to return to the closed position.

For pulse open/close, the door will undertake this action immediately. Otherwise, the door will close automatically after a set period of time has elapsed, which is settable like shown below.

- 0 - 99 = number of seconds the door will remain open before closing automatically.
- t0 = Pulse open/pulse closed, the door stays open until the next operation action
- t1 = Pulse open/pulse closed, the door closes when Timer 1 has counted down to zero (parameter 3)
- t2 = Pulse open/pulse closed, the door closes when Timer 2 has counted down to zero (parameter 4)

**Parameter 2 : (2) “remain-open” time after reaching the full-open (vehicles) position**

This is the time that elapses between the moment the door arrives at the fully or completely open position and begins the movement to return to the closed position. For pulse open/close, the door will undertake this action immediately. Otherwise, the door will close automatically after a set period of time has elapsed, which is settable like shown below.

- 0 - 99 = number of seconds the door will remain open before closing automatically.
- t0 = Pulse open/pulse closed, the door stays open until the next operation action
- t1 = Pulse open/pulse closed, the door closes when Timer 1 has counted down to zero (parameter 3)
- t2 = Pulse open/pulse closed, the door closes when Timer 2 has counted down to zero (parameter 4)

**Parameter 3 : (0) Timer 1**

Adjustable timer (0 seconds - 10 minutes) to be used for a number of timer controlled actions such as temporarily disabling the interlock function or cancelling the open position in toggle mode.

- 0 = Factory default, timer is off
- 0.01- 10.00 = Adjustable time in minutes and seconds which serves as the starting point for the timer to count down from

**Parameter 4 : (0) Timer 2**

Adjustable timer (0 seconds - 10 minutes) to be used for a number of timer controlled actions such as temporarily disabling the interlock function or cancelling the open position in toggle mode.

- 0 = Factory default, timer is off
- 0.01- 10.00 = Adjustable time in minutes and seconds which serves as the starting point for the timer to count down from

**Parameter 5 : (50) Pedestrian passage width ('Half Open' or 'Width')**

This parameter sets the width that the door will open for the passage of pedestrians, which is set as a percentage of the total width of the door opening. The width is adjustable between 1% and 99% of the total door width.

- 50 = factory standard setting: door will open up to 50%
- 1-99 = sets the percentage width that the door will open

**Parameter 6 : (0) Limit door opening to “half open” position**

When activated, the door will only open to the maximum width for the passage of pedestrians (parameter 5) despite being commanded to open fully. For example, during the winter in order to reduce heat loss when opening an outside door.

- 0 = Fully open control works normally
- 1 = Fully open control works as a people passage (partly open)

**Parameter 7 :** *Reserved for future applications*

**Parameter 8 :** *Reserved for future applications*

**Parameter 9 :** *Reserved for future applications*

**Parameter 10 : (----) Displays the actual number of door movements**

Indicates the number of door movements in units of 100 (e.g. the number 5 will represent 500 door movements)

**Parameter 11 : (----) Displays the actual number of power cycles**

Indicates the number of times the power has switched off and on again

**Parameter 12 : (12--) Fault log**

Last known error message (n)

**Parameter 13 : (13--) Fault log**

Penultimate error message (n-1)

**Parameter 14 : (14--) Fault log, (n-2)**

**Parameter 15 : (15--) Fault log, (n-3)**

**Parameter 16 : (16--) Fault log, (n-4)**

*Note : See Chapter 9 for an explanation of each fault code*

**Parameter 17 :** *Reserved for future applications*


**Parameter 18 :** *Reserved for future applications*

**Parameter 19 :** *Reserved for future applications*

### 7.3 Installer parameter overview

The installer can gain access to the controller settings via parameter 9.

An explanation about how to access the menu can be found in paragraph 7.1.

	<p>Logging into the controller and changing settings is password protected and is reserved exclusively for MDE its distributors. The login code will not be provided by MDE to third parties.</p>
	<p>Note: Marking of a parameter description with an single or double asterisk (*) means that this option is not available for a certain type of controller. * This option is not available on the SDA-04DCB2 ** This option is not available on the SDA-04</p>

#### 7.3.1 Motor setup

**Parameter 30 :** **(-) Motor selection\***

- 0 = Configuring the controller to a Metaflex Type 1 AC motor (90VA up to 220Kg)
- 1 = Configuring the controller to a Metaflex Type 2 AC motor (370VA up to 440Kg)
- 2 = Configuring the controller to a Metaflex Type 3 AC motor (370VA up to 3000Kg)


**Warning!** No parameter setting → Code E08 in display  
Incorrect setting → Code E13 in display

**Parameter 31 :** **(-) Slide direction**

If not set, this will be automatically determined by the first initial configuration cycle. When teaching-in, the door it must first be opened manually to the halfway position. After the power is turned on the door should close first.  
If this not does not happen, the value must be set manually.

- 0 = The door has been configured as DIN right
- 1 = The door has been configured as DIN left

**Warning!** No parameter setting → Code E08 in display

	<p>At the end of a non-standard system assembly and/or configuration, the sliding direction may have to be reversed. Use parameter 31 for this.</p> <p>ATTENTION : When the voltage and/or battery have been activated, the door should close first.</p>
---	--


**Parameter 32 :** *Reserved for future applications*

**Parameter 33 :** **(0) Additional closing boost (extra power to overcome the indentation)**

- 0 = Disabled, door closes at normal force
- 1-9 = Door receives extra power increasingly after reaching the "end position"

**Parameter 34 : (0) Behaviour of the controller after power loss**

- 0 = After a power failure, the controller reconfigures the door in order to determine its end points.
- 1 = The configuration process is stored in the controller, which will ensure that the door will not be reconfigured upon restart after a power failure.

	<p>If parameter 34 is set to 1: After restoration of the power while the door is in the open position, the door will close slowly to determine the start position.</p>
---	--

**Parameter 35 : (1) Limiting maximum voltage while accelerating\***

Share factor to achieve maximum motor voltage


- 0 = Limitation disabled
- 1..5 = Share factor to achieve maximum motor voltage

**Parameter 36 : (1) Manual override (Pull and Go)**

- 0 = The controller does not enter into a manual override condition and the door will not be able to be opened manually
- 1 = The controller enters into a manual override condition and the door can be opened by hand and it will also travel to the partially opened position
- 2 = The controller enters into a manual override condition and the door can be opened by hand and it will also travel to the fully open position

**Parameter 37 : (0) Frost protection (if the motor and/or controller are in a freezer)**


- 0 = Frost protection is disabled
- 1 = Frost protection is enabled, a continuous current is applied to the motor windings to ensure that heat is generated in the motor and the controller

	<p>I. For temperatures below minus 27 °C, the motor must be insulated with armaxflex. II. If freeze protection is enabled, input 1 must be used as an emergency stop and input 6 connected to + with a bridge.</p>
---	--

**Parameter 38 : Reserved for future applications**

**Parameter 39 : (0) Restoring to factory settings**


- 0 = Standard value, no action
- 1 = When set to 1 all parameters will be set to their factory settings

	<p>After a reset to factory settings, the following must be reset:  Par. 30 : Motor type  Par. 31 : DIN direction (if not automatically taught-in)  Par. 33 : Closing boost  <b>Par. 10 &amp; 11 : (motion and power failure counters) are not reset</b></p>
---	--

### 7.3.2 Setting up safety devices

**Parameter 40 : (0) Setting the controller to Industrial or EN16005 use**

- 0 = "legacy mode" the software will behave as if it were up to version 4.06  
Safety devices will not be monitored
- 1 = Safety devices are monitored in accordance with EN16005  
(Relay 1 is reserved exclusively for monitoring the safety devices)


	<p><b>If parameter 40 is set to 1:</b></p> <p>One can connect up to 4 monitored (EN16005) safety devices:</p> <p>Input 29 (PS1) : Non track side          Input 32 (PS2) : Track side          Input 25 (PS3) : Track side (additional sensor in case of an extra wide door)          Input 26 (PS4) : Sliding space</p> <p>When conforming to the EN16005 it is mandatory to connect, at a minimum, Two EN16005 safety devices. See relevant appendix for connection diagrams.</p>
---	---

**Parameter 41 : (0) "Personal Safety 1" (message "PS1" in EN16005 mode)  
(input 29) "Photocell 1" (message "2" in Legacy mode)**

- 0 = Only active while closing (interrupting the signal opens the door)
- 1 = When the door is closed, the sensor will also work as an opener  
(any interruption of the signal will open the door)

**Parameter 42 : (0) "Personal Safety 2" (message "PS3" in EN16005 mode)  
(input 32) "Photocell 2" (message "3" in Legacy mode)**

- 0 = Only active while closing (interrupting the signal opens the door)
- 1 = When the door is closed, the sensor will also work as an opener  
(any interruption of the signal will open the door)
- 2 = Only active while opening (interrupting the signal closes the door)

	<p>Both sensor inputs (29 and 32) are suitable for normally open (N.O. /NPN) or normally closed (N.C. /PNP) contacts from external sensors such as photo, infrared or radar detectors. The inputs are configured as normally closed (N.C.) and optionally drawn from ground (0VDC) or the positive voltage (24VDC). When an input is not used, it must be connected to 0VDC or 24VDC.</p>
	<p>In case the sliding space sensor is activated (Parameter 43 or 44) the door will open and hold 20cm prior to the end position. On de-activation of the sensor the door will resume it's travel to the full open position.</p>

**Parameter 43 : (0) "Personal Safety 3" (message PS3) only present in EN16005 mode  
(input 25)**

- 0 = Only active while closing (interrupting the signal opens the door)
- 1 = Only active while opening (interrupting the signal closes the door)

**Parameter 44 :** (1) “Personal Safety 4” (message PS4) only present in EN16005 mode (input 26)

- 0 = Only active while closing (interrupting the signal opens the door)
- 1 = Only active while opening (interrupting the signal closes the door)

**Parameter 45 :** (5) **DMS (Deceleration Measurement System)**

- 0 = The controller will only stop the door if it detects the presence of an obstacle
- 1..9 = The controller will stop the door if it senses that it is slowing down or is blocked, whereby 1 is the least sensitive and 9 is the most sensitive

**Parameter 46 :** (5) **DMS opening/closing factor**

DMS will also be activated when the door is opening. Value 0 indicates that the DMS while opening will be 3.25 times less sensitive than while closing. When this value is set to 9, the DMS is the same while the door is opening and closing.

- 0 = DMS value is 3.25 times greater while the door is closing
- 1..9 = The difference factor between the MDS while the door is opening and closing; 9 = the same

**Parameter 47 :** *Reserved for future applications*

**Parameter 48 :** *Reserved for future applications*

**Parameter 49 :** *Reserved for future applications*

### 7.3.3 Speeds

**Parameter 50 :** (5) **Boost speed ('start')**

The start speed is the speed attained when the controller delivers a lot of power. The so-called boost speed is available momentarily in order to provide the door with enough movement power to overcome the hermetic seal.

- 1..9 = Start speed 1 (threshold start speed) - 9 (220 mm/sec.)

**Parameter 51 :** (5) **Speed during opening ('open')**

Speed at which the door will open.

- 1..9 = 1 ( threshold speed) - 9 (maximum opening speed of 800 mm/s)

**Parameter 52 :** (5) **Speed during closing ('close')**

Speed at which the door will close.

- 1..9 = 1 ( threshold speed) - 9 (maximum opening speed of 400 mm/s)

**Parameter 53 : (3) End speed ('slow') while opening**

Is the door speed just before the door has fully opened, i.e. at the end of the opening cycle. The door also has this end speed during the teaching-in process and during a safety/security action (slow mode).

- 1..9 = 1 (threshold speed) to 9 (maximum opening speed of 120 mm/s)

**Parameter 54 : (0) End speed ('slow') while closing**

Equal to parameter 53, but while closing.

- 0 = The value of parameter 54 is equal to that of parameter 53
- 1..9 = 1 (threshold speed) to 9 (maximum opening speed of 120 mm/s)

**Parameter 55 : (0) Extending the braking distance to the open end position**

Extend the braking distance (slow close) of the door (value in cm), which makes the door move more slowly.

- 0 = Function disabled
- 1..50 = additional braking distance (CM) including lower speed

**Parameter 56 : (0) Extending the braking distance to the closed end position**

Extend the braking distance (slow close) of the door (value in cm), which makes the door move more slowly.

- 0 = Function disabled
- 1..50 = additional braking distance (CM) including lower speed

**Parameter 57 : (0) Additional closing force compared with that determined during teaching-in**

- 0 = Extra power during closing disabled
- 1..9 = Extra power increasing during closing

**Parameter 58 : (0) Boost at the start of closing**




Momentary extra boost for a door in the fully open position, which will pull the door out of the indentation catch spring.

- 0 = Boost is not enabled
- 1..9 = Extra power increasing at the start of the closing procedure.

**Parameter 59 : Reserved for future applications**



### 7.3.4 Relay Settings

	<p>When the controller is set in accordance with EN16005: Relay 3 will be automatically configured as a monitoring relay for safety devices. No other setting is possible.</p>
	<p><b>Warning:</b> N.C. status of the relay will be controlled by the software and will be noticed in the event of a power failure.</p>
	<p>The SDA-04 controllers are fitted with 3 programmable relays. The following functions can be set to each parameter individually:</p> <ul style="list-style-type: none"> <li>1 = Relay switches when the door reaches the fully open position</li> <li>2 = Relay switches 4 seconds before the auto-return and while it is closing</li> <li>3 = Relay switches when the door has reached the half open position</li> <li>4 = Relay switches when the controller registers a fault</li> <li>5 = Monitoring function – for controlling the operation of a safety device Sensor on input 29</li> <li>6 = Monitoring function – for controlling the operation of a safety device Sensor on input 29 and 32</li> <li>7 = Interlock output</li> <li>8 = Relay opens for 500mSec. (pulse) when the door begins to open</li> <li>9 = Relay switches when battery voltage drops below 18V (DCB2 only)</li> </ul>

**Parameter 70 : (0) Relay output 1 (multifunction relay)**

- 0 = Active when the door is closed when combined with one of the following Functions: Input 1 is active (lock) and/or Input 2 is active (one way) and/or Motor lock activation (Parameter 76-77-78)
- 1..11 = Please refer to legend 7.3.4.

**Parameter 71 : (0) Relay 1 configuration (N.O. or N.C.)**

- 0 = Relay is set as normally open (N.O.)
- 1 = Relay is set as normally closed (N.C.)

**Parameter 72 : (0) Relay output 2 (multifunction relay)**


- 0 = Active when the door is open (“Interlock”)
- 1..11 = Please refer to legend 7.3.4.

**Parameter 73 : (0) Relay 2 configuration (N.O. or N.C.)**

- 0 = Relay is set as normally open (N.O.)
- 1 = Relay is set as normally closed (N.C.)

**Parameter 74 : (0) Relay output 3 (multifunction relay)**

- 0 = Relay is disabled
- 1..11 = Please refer to legend 7.3.4.

	<p>When parameter 74 is set to 5 or 6, the power feed to the external (NON EN16005) sensors must be switched via this contact. This will allow the controller to switch the sensors on and off during a test cycle.</p>
	<p><b>When the controller is set in accordance to the EN16005:</b> Relay 3 will be automatically configured as a monitoring relay for safety devices. No other setting is possible.</p>


**Parameter 75 : (0) Relay 3 configuration (N.O. or N.C.)**

- 0 = Relay is set as normally open (N.O.)
- 1 = Relay is set as normally closed (N.C.)

**Parameter 76 : (0) Motor Lock Activation**

Note: motor lock can only be activated when parameter 70= 0 (mandatory)  
Note: this parameter will be active after 1 door cycle

- 0 = In the event that the door has closed in a locked state (input 1 and/or 2 are active), relay 1 will be activated. Motor lock will stay idle.
- 1 = In the event that the door has closed in a locked state (input 1 and/or 2 are active), relay 1 will be activated along with the motor lock.

	<p><b>Warning:</b> Note: motor lock is not a means to burglary protection.</p>
---	--

**Parameter 77 : (0) Motor Lock without external activation**

Note: can only be used when parameter 70= 0 and 76=1 (mandatory)  
Note: this parameter will be active after 1 door cycle

- 0 = Motor Lock is only active on contact closure of inputs 1 and/or 2
- 1 = Motor Lock is always active and does not need activation based on an external contact. Pulling on the door will activate the motor lock

**Parameter 78 : (0) Motor Lock in the event of a fault**

- 0 = In the event of a fault, the lock relay and/or the motor interlock will be overridden by the controller
- 1 = In the event of a fault, the lock relay and/or the motor interlock will be held in their current position

**Parameter 79 : Reserved for future applications**

### 7.3.5 Input Configuration

**Parameter 80 : (0) Toggle function (1x pulse open, 1x pulse closed)**

When the door is opened all open switches operate as if they were close switches.

- 0 = Function disabled
- 1 = Function enabled

**Parameter 81 :** *Assigned to input 1, fixed value*

**Parameter 82 :** *Assigned to input 2, fixed value*

**Parameter 83 : (0) Opening the door with "stop" button (input 4)**

Time by which the door can be opened by means of the "stop" (input 6) button.

- 0 = Function disabled
- 1..99 = Time that the door remains open after pressing the emergency stop

**Parameter 84 :** *Assigned to input 6, fixed value*

**Parameter 85 : (0) Door action in the event of a fire (input 7)**

- 0 = In the event of a fire alarm, the door will act as a cold smoke block; Door closes, local control is still possible, all safety devices (photocells etc. are disabled). No boost will be used during opening the door. (use in combination with UPS)
- 1 = In the event of a fire alarm, the door will act as an escape door (The door will go to the 100% open position)
- 2 = In the event of a fire alarm, the door will act as a fire door (the door will go to the closed position, all safety devices are disabled). No boost will be used during opening the door. (use in combination with UPS)
- 3 = In the event of a fire alarm, the door will act as a fire door; however, if 1, the protection devices and emergency stop will continue to work (Parameter 93 must be set to value 3). No boost will be used during opening the door. (use in combination with UPS)
- 4 = This setting works as 0, but with boost. Use in combination with heavy doors. Not suitable for systems which use a UPS.
- 5 = This setting works as 2, but with boost. Use in combination with heavy doors. Not suitable for systems which use a UPS.
- 6 = This setting works as 3, but with boost. Use in combination with heavy doors. Not suitable for systems which use a UPS.

**Parameter 86 : (0) Function "open door" (control via a PLC)**

Send open control signal to door via "latch" command (door holds the status for as long as the contact is closed). The "one way" function will be ignored.

- 0 = Normal operation
- 1 = Input 12 activated => Fully open
- 2 = Input 12 activated => Fully open  
Input 13 activated => Partially open

- 3 = Input 12 activated => Emergency open
- 4 = Input 12 activated => Open door or immediately close when the door is opened
- 5 = Input 13 activated => Press 1x - door will partially open, press 2x door will fully open (buttons should be pressed in quick succession)

**Parameter 87 :** *Assigned to inputs 15 and 16, fixed value*

**Parameter 88 :** **(0) Interlock: temporary change of interlock status (input 23)**

An external contact can be used to temporarily disable the interlock function if the interlock is active.

- 0 = Serves as an input for feedback from an external lock
- 1 = Serves as an input for an external (N.C.) “stop” switch in case of activated motor frost protection (Parameter 37=1, standard “stop” input (input 6) can’t be used). Input 23 acts as input 6 normally would.
- 2 = Input is configured to act as a “permanent toggle” input (fully open/close). In case of an opened door, activation of inputs 12,13,15 or 16 can alter the door state. On activation of either inputs 1 “Lock” or 2 “One-Way” the door will close.
- 3 = Input is configured to act as a “permanent toggle” input (fully open/close). In case of an opened door, activation of inputs 12,13,15 or 16 CAN NOT alter the door state. On activation of either inputs 1 “Lock” or 2 “One-Way” the door WILL NOT close.
- 4 = Cancels the interlock, the door remains closed during Timer 1 or for as long as the contact is closed (contact time > Timer 1)
- 5 = Cancels the interlock, the door opens during Timer 1 or for as long as the contact is closed (contact time > Timer 1) Activating inputs 12, 13, 15 or 16 will close the door. The interlock function remains deactivated until the end of the timer countdown (local operation continues to be possible)
- 6 = Cancels the interlock, the door remains closed during Timer 2 or for as long as the contact is closed (contact time > Timer 2)
- 7 = Cancels the interlock, the door opens during Timer 2 or for as long as the contact is closed (contact time > Timer 2) Activating inputs 12, 13, 15 or 16 will close the door. The interlock function remains deactivated until the end of the timer countdown (local operation continues to be possible)

### 7.3.6 Advanced Network and Interlock functionality

**Parameter 90 : (0) Door number**

When a door is to be connected to the Metaflex door Server (MDS) via the optional TCP/IP interface, the door must get a unique number that is set here.

- 0 = No door number is set
- 1..255 = The number of the door



**Attention:**

Each door must have a unique number; if more than one door has the same number, this will lead to conflicts in the software.

**Parameter 91 : (0) Interlock: Time**

- 0 = Normal interlock configuration (no time limit)
- 1..5 = In order to prevent a build-up of persons in a interlock, it is possible to automatically override the interlock operation after a set time (seconds) (Lock input will be ignored)

**Parameter 92 : (0) Interlock: Retain the command to "open"**

If the interlock is active, retains the command "open" from the "next door waiting".

- 0 = Memory function disabled
- 1 = Memory function enabled

## 8 Parameter settings (short version)

### 8.1 Parameterlijst (eind) gebruikers

5.xx	4.06	Naam	Omschrijving	Bereik	Standaard
0	9	Installation menu	Enter your 4-digit login here to access the installation menu	0000..9999	-
1	1	Semi-open waiting time	Delay till closing the door ("t0" = pulse mode, "t1" = pulse mode with T1 time-out, "t2" = pulse mode with T2 time-out	0..99 sec, t0, t1, t2	2
2	2	Fully open waiting time	Delay till closing the door ("t0" = pulse mode, "t1" = pulse mode with T1 time-out, "t2" = pulse mode with T2 time-out	0..99 sec, t0, t1, t2	2
3	-	Timer T1	Timer for auto-close return time or interlock disable	0..10.00 min.	0
4	-	Timer T2	Timer for auto-close return time or interlock disable	0..10.00 min.	0
5	7	Semi-open width	Width of semi-open (percentage of fully open position)	10..99%	50
6	8	Winter	1=max. semi-open / 0= normal cycle	0/1	0
10	75	Number of door movements	Number of movements x100	0..9999	0
11	74	Number of power cycles	The number of times power has been switched on and off	0..9999	0
12	69	Fault 1	laatste storing (n)	(code)	0
13	70	Fault 2	op 1 na laatste storing (n-1)	(code)	0
14	71	Fault 3	storing (n-2)	(code)	0
15	72	Fault 4	storing (n-3)	(code)	0
16	73	Fault 5	storing (n-4)	(code)	0

### 8.2 Parameterlijst installateurs

5.xx	4.06	Naam	Omschrijving	Bereik	Standaard
0	9	Login	Access to installation menu	0000-9999	
30	51 (AC)	Door type	0= 90W AC, 1= 370W AC, 2= 370W AC for heavy doors (i=63)	0/1 (DCB) 0/1/2 (AC)	--
31	52	Slide direction	1=left / 0=right configuration Will be set automatically, when not configured	0/1	--
32	53 (AC)	Torque	Max torque during opening	1..9	5
33	54	Boost at closing	0=Off / 1..9= On (1=Weak, 9=Strong)	0/1..9	0
34	65	Save end points	1=On 0=Off	0/1	0
35	83 (AC)	Max acceleration	Factor for motor voltage during acceleration	0..5	1
36	57	Pull&go	0=Off / 1=On to Semi-open / 2=On to fully open	0/1/2	1
37	64 (AC)	Frost protection	1=On / 0=Off	0/1	0
39	76	Factory defaults	1=Restore factory defaults	0/1	0
40	-	EN-16005 mode	Sensor type: 0=legacy / 1=EN-16005	0/1	0

			(safety sensors)		
41	-	Sensor 1 mode (I=29)	0=safety sensor / 1=Opening sensor (n.c.)	0/1	0
42	62	Sensor 2 mode (I=32)	0=safety sensor / 1=Closing sensor (n.c.)	0/1/2	0
43	-	Sensor 3 mode (I=25)	0=Active while closing / 1=Active while closing	0/1	0
44	-	Sensor 4 mode (I=26)	0=Active while closing / 1=Active while closing	0/1	1
45	55	DMS	0=Door stops only at blocking 1..9: 1=Least sensitive, 9=most sensitive	0/1..9	5
46	87	DMS open/close factor	0=Opening DMS 3,25 times closing DMS; 9=Opening DMS the same as closing DMS	0..9	5
50	6	Start speed	1= Threshold speed; 9=220mm/s	1..9	5
51	3	Speed during opening	1= Treshold speed; 9=800mm/s	1..9	5
52	4	Speed during closing	1=Treshold speed; 9=400mm/s		5
53	5	Endspeed at opening	1=Treshold speed; 9=120mm/s	1..9	3
54	-	Endspeed at closing	1=Treshold speed; 9= 120mm/s; 0=same as parameter 53	0/1..9	0
55	89	Slow mode to beginning position	Extra distance to run in slow mode measured in cm	0..50	0
56	86	Slow mode to end position	Extra distance to run in slow mode measured in cm	0..50	0
57	78	Extra force during closing	0=Off / 1..9= On (1=weak, 9=strong)	0/1..9	0
58	77	Boost at the start of closing	0=Off / 1..9= On (1=weak, 9=strong)	0/1..9	0
70	79	Output relay 1 function	0=lock / 1..9=see parameter 74	0/1/2/3/4/5/6/7/8 9 (DCB) 10/11	0
71	66	Relay 1 mode	0=normally open, 1= normally closed	0/1	0
72	80	Output relay 2 function	0=interlock / 1..9=see parameter 74	0/1/2/3/4/5/6/7/8 9 (DCB) 10/11	0
73	67	Relay 2 mode	0=normally open, 1= normally closed	0/1	0
74	63	Output relay 3 function	0=Off / 1=Door open / 2=4 sec before and during closing / 3=door semi-open / 4=Fault / 5 monitor check fotocell 1 / 6 monitor check fotocell 1 & 2 / 7=interlock output / 8=puls 500 msec at start opening / 9=battery empty (DCB) / 10=not closed and not blocked / 11=door not closed or any error	0/1/2/3/4/5/6 7/8 9 (DCB) 10/11	0
75	68	Relay 3 mode	0=normally open, 1= normally closed	0/1	0
76	58	Motorlock	0=input 1 activates lock / 1=input 1 activates lock and motorlock	0/1	0
77	60	Always locked	1=yes /0=Only at 'Lock' or one-way	0/1	0


78	61	Locking at fault	1=Locked / 0=not locked	0/1	0
80	88	Pulse open pulse close	1= enabled; 0=disabled	0/1	0
83	85	Emergency open	1..99 time till door closing in sec, 0=disabled	0/1..99	0
85	56	Fire configuration	0=Firedoor (high priority, user inputs enabled)/ 1=escape door / 2=Firedoor (high priority) / 3=Firedoor (Lower priority) 4=as 0 with boost 5=as 2 with boost 6=as 3 with boost	0/1/2/3	0
86	81	Input door open function (input 12, 13)	0=normal / 1=open (input 12) / 2=fully open (12) of semi-open (13) open / 3=emergency open (inp.12) / 4=door open or close depending on position / 5= 1x press = semi-open, 2x press (during opening) = full open	0/1/2/3 4/5	0
88	-	Input 23	0=normal (feedback Lock) / 1=STOP (AC) / 2=open without closing timeout one-way (AC) / 3=open without closing timeout (AC) / 4=stop locking interlock during T1 / 5= stop opening interlock during T1 / 6=See 4 with T2 / 7=See 5 with T2	0/1/2/3/4/ 5/6/7	0
90	82	Doornumber	Communication address for LAN module; 0=disabled	0/1..255	0
91	59	Interlock tim	Max. Time 2 <sup>e</sup> door locked by interlock (Doesn't affect Lock input)	0 / 5..99 sec	0
92	84	Latch open commando	Remembers open command when interlock is activated.	0/1	0



### 8.3 Conversion table parameters for installers 4.06 – 5.xx

With the introduction of the 5.xx and 22.00 software for the SDA-04 and SDA-04DCB2, some drastic changes in the parameter structure have been made. In the overview below, you can find a conversion table from the 4.06 to the 5.xx software in a handy format. This can help the installers who already know the parameter structure by memory of the 4.06 software.

## FRONT

SDA-04 Parameter Convertor V2			
<b>Applicable to:</b>			
SDA-04		with SW 5.xx	
SDA-04DC(B)(2)		with SW 22.xx	
OLD - NEW		OLD - NEW	
1 - 1		51 - 30	
2 - 2		52 - 31	
3 - 51		53 - 32	
4 - 52		54 - 33	
5 - 53		55 - 45	
6 - 50		56 - 85	
7 - 5		57 - 36	
8 - 6		58 - 76	
9 - 0		59 - 91	

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## BACK

OLD - NEW	OLD - NEW
60 - 77	75 - 10
61 - 78	76 - 39
62 - 41	77 - 58
63 - 74	78 - 57
64 - 37	79 - 70
65 - 34	80 - 72
66 - 71	81 - 86
67 - 73	82 - 90
68 - 75	83 - 35
69 - 12	84 - 92
70 - 13	85 - 83
71 - 14	86 - 56
72 - 15	87 - 46
73 - 16	88 - 85
74 - 11	89 - 55

## 9 Display codes and troubleshooting

Nr	Display 5.xx	Display 4.06	Omschrijving
*...	1° point blinks	2° point blinks	Setup on 90 Watt AC motor
. *..	2° point blinks	3° point blinks	Setup on 370 Watt AC motor
.. *.	3° point blinks	-	Setup on 370 Watt AC motor heavy reductor
....	....	....	Idle (DCA/DCB)
-	bo	bo	Boost, extra force after closing
-	1	1	Security 1 active (safety edge)
-	2	2	Security 2 active (fotocell 1)
-	3	3	Security 3 active (fotocell 2)
Lo	Lo	Lo	Lock fault, no feedback
-	ONE-	1d	One way active
-	o1	o1	Obstruction in indentation
-	o2	o2	Obstruction during opening
-	o3	o3	Obstruction during closing
-	oc	oc	DMS activated
FF	Fire	FF	Fire cycle activated
ES	Stop	ES	Emergency stop activated
UL	unLo	uL	Emergency open activated
-	Edge	E	Edge control active: always slow
-	LL	LL	Initialisation process pending
-	Fo	Fo	Input open outside activated
-	Ho	Ho	Input half open outside activated
-	Fi	Fi	Input open inside activated
-	Hi	Hi	Input half open inside activated
-	iLoc	iL	Input lock activated
-	PS 1	-	Safety sensor 1 activated
-	PS 2	-	Safety sensor 2 activated
-	PS 3	-	Safety sensor 3 activated
-	PS 4	-	Safety sensor 4 activated
-	iLF1	-	Interlock disable functie 1 activated
-	iLF2	-	Interlock disable functie 2 activated
-	iLF3	-	Interlock disable functie 3 activated
-	iLF4	-	Interlock disable functie 4 activated
1	E 01 (AC) Batt (DCB)	E 01 (AC) Batt (DCB)	Undervoltage Accu nearly empty
2	E 02 (AC)	E 02 (AC)	Overvoltage
3	E 03	E 03	Overcurrent or shortcircuit to ground (after power on)
4	E 04 (AC)	E 04 (AC)	IxT monitoring motor
4	E RE (DCB)	E RE (DCB)	Reversed motor polarity
5	E 05 (AC)	E 05 (AC)	IxT monitoring inverter
6	E 06 (AC)	E 06 (AC)	Motor temperature too high
7	E 07 (AC)	E 07 (AC)	Inverter temperature too high
8	E 08	E 08	EEPROM failure or not initialized
9	E 09	E 09	Belt broken, position out of normal range
10	E 10	E 10	Initialize failed
11	E 11	E 11	Position encoder fault
12	E 12	E 12	Monitoring check photocell failed
13	E 13 (AC)	E 13 (AC)	Motor type failed: measured coil resistance not matching
14	E 14 (AC)	E 14 (AC)	Inverter temperature high warning
15	E 15	-	Accu fault (no accu or reversed polarity)

## 10 Fault codes and possible solutions

<b>General</b>	<b>External operation/control</b>	Remove signal (Input 12)
	<b>Meaning</b>	<b>Clear message</b>
<i>F<sub>i</sub></i>	Full-open Inside	Remove signal (Input 15)
<i>H<sub>i</sub></i>	Half-open Inside	Remove signal (Input 16)
<b>General</b>	<b>Special operation</b>	
	<b>Meaning</b>	<b>Meaning</b>
<i>LL</i>	Initialisation in process	Waiting until configuration is complete
<i>iLoc</i>	Lock or sluice input 1 is active	Cancel contact or sluice (Input 1)
<i>ONE-</i>	One-way active	Key or rotary switch (Input 2)
<i>unLo</i>	Any active electrical interlocks are lifted up	Restore "N.C." (Input 4)
<i>STOP</i>	Emergency stop operated	Emergency stop is operated (Input 6 (or 1))
<i>FiRE</i>	Door assumes fire position	Restore "N.C." (Input 5)
<i>Lo</i>	Lock problem -> no feedback	Open circuit or lock not locking (Input 23)
<b>General</b>	<b>Obstruction messages</b>	
	<b>Meaning</b>	<b>Clear message</b>
<i>o1</i>	Obstruction in indentation	Remove obstruction
<i>o2</i>	Obstruction during opening	Remove obstruction, door is too heavy, check mechanical adjustments
<i>o3</i>	Obstruction during closing	Remove obstruction, door is too heavy, check mechanical adjustments
<i>bo</i>	Indentation boost = retighten in indentation when closing	Call the service department
<i>oc</i>	DMS obstruction check	Remove obstruction or door has too much resistance

EN16005 Activated safety devices		
	Meaning	Clear message
P5 1	Safety 1 (AIR, not rail side)	(Input 29): Remove the object from the detection zone
P5 2	Safety 2 (AIR, rail side)	(Input 32): Remove the object from the detection zone
P5 3	Safety 3 (AIR3, rail side)	(Input 25): Remove the object from the detection zone
P5 4	Safety 4 (AIR4, sliding space)	(Input 26): Remove the object from the detection zone
LEGACY Activated safety devices		
	Meaning	Clear message
2	Safety 2 active (1st AIR)	AIR1-beam is broken (Input 29)
3	Safety 3 active (2nd AIR)	AIR2-beam is broken (Input 32)
1	Safety 1 active	Safety list operated, obstacle removal by ruler (input 25)
E d9E	Self-monitoring safety system or sliding space security	Repair safety list or remove obstruction (Input 26)

SDA-04AC Hardware-related messages		
- . - . -	SDA-04AC with 90 Watt AC motor at rest, no current activities and/or errors	
- - . -	SDA-04AC with 370 Watt AC motor at rest, no current activities and/or errors	
	Meaning	Clear message
E 01	Controller low voltage fault	Check mains supply - reset
E 02	Controller high voltage fault	Check mains supply - reset
E 03	Current surge or short circuit to earth	Replace controller and/or motor
E 04	I <sup>2</sup> T motor monitoring	Motor overloaded, mechanical check
E 05	I <sup>2</sup> T motor frequency regulator	Controller overloaded, mechanical check
E 06	Motor temperature too high	Check situation
E 07	Temperature controller too high	Check situation
E 08	No parameter setting/EEPROM or teaching-in error	Reset controller / Call service
E 09	Toothed belt broken or extreme structural opening width	Check toothed belt
E 10	Fault during teaching-in process	Reset controller, check mechanical adjustment of door
E 11	Pulse generator fault	Check connector / change the motor
E 12	Safety fault	Check safety sensor or that for parameter 63 value 5 or 6 is enabled
E 13	Motor resistance does not match 90/370W	Controller setting is incorrect or motor is defective, call the service department
E 14	Warning: Frequency regulator temperature too high	Allow controller to cool down

SDA-04DCB2 Hardware-related messages SDA-04DCB2		
SDA-04DCB2 with 100 Watt DC motor at rest, no current activities and/or errors		
	Meaning	Clear message
E 01	Controller low voltage fault	Check mains supply - reset
E 03	Current surge or short circuit to earth	Replace controller and/or motor
E 08	No parameter setting/EEPROM or teaching-in error	Reset controller / Call the service department
E 09	Toothed belt broken or extreme structural opening width	Check toothed belt
E 10	Fault during teaching-in process	Reset controller, check mechanical adjustment of door
E 11	Pulse generator fault	Check connections, repair / replace the motor
E 15	Battery faulty or not found	Check connections, repair / replace the battery
E rE	Motor polarity reversed	Switch the motor connections
bAtE	Battery voltage is too low	Check the battery charge / replace the battery

## 11 Electrical connections

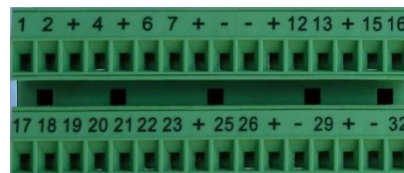
This chapter describes all the control and protection inputs and outputs of the SDA-04. These signals are all provided on the two green connectors on the right side of the controller. The chart below provides each input/output terminal number, the function name, the description and an example of its application.

### 11.1 Input signals of the SDA-04

#### Controller connector information

The inputs and outputs of the SDA-04 and the SDA-04DCB2 are the same.

Connectors are mutually interchangeable.



Enabled	Name of function	Priority	Description
1	Lock	Control	This input is used to put the door in the closed position; the SDA sends a lock signal (if present).
2	One_way	-	This input is used to block the one-way passage.
4	Emergency	-	This input is used to unlock the SDA locks in an emergency.
6	Emergency_stop	Security	This input is used to switch off the electrical door drive in an emergency.
7	Fire door/ escape door	Fire (low/high)	This input is used in the event of a fire to place the door in the 'Escape door position' or the 'Fire door position'.
12	Open_outside	User	This input is used to bring the door to the 100% open position or to allow the door to close in the event of a 'Pulse open/close' system. When it is 'one_way', the action is blocked.

13	Halfopen_outside	User	This input is used to bring the door to the "Half open" position or to allow the door to close in the event of a 'Pulse open/Pulse close' system. When it is 'one_way', the action is blocked.
15	Open_inside	User	This input is used to bring the door to the 100% open position or to allow the door to close in the event of a 'Pulse open/Pulse close' system. When it is 'one_way', inside signals can open the door.
16	Halfopen_inside	User	This input is used to bring the door to the "Half open" position or to allow the door to close in the event of a 'Pulse open/Pulse close' system. When it is 'one_way', inside signals can open the door.
23	Lock_pos		This is an input to which the feedback signal of a lock can be connected.
25	Safety edge	Emergency	This is the input to which the safety list can be connected. At the same time, this input can also be used for sliding space security.
26	Edge_ctrl/	Emergency	This input can be used for the self-monitoring of safety systems or as an input for the sliding space protection. When this signal is activated, the door only moves at a 'slow speed'.
26	Sliding space Security	Emergency	The input edge_control can also be used as an input for the sliding space security.
29	Safety 1	Emergency	This input is used for the signal of the 1st safety device.
32	Safety 2	Emergency	This input is used for the signal of the 2nd safety device.

## 11.2 Priorities

De SDA-04 controller heeft verschillende ingang en menu instellingen waarmee de invloed van signalen uit de omgeving en het gedrag van de deurbewegingen bepaald kan worden. In situaties waarin deze signalen tot conflicterend gedrag zou kunnen leiden, worden prioriteiten gebruikt om te bepalen wat de actie van de deur zal zijn. Hiervoor zijn de volgende niveaus gedefinieerd:

Prio	Status	Omschrijving	Input
1	Safety	Critical safety, stop immediately	Emergency stop Hardware fault Installation fault Configuration fault Menu is activated
2	Fire high prio	Close in case of fire (low energy mode), manual opening possible	Fire input
3	Emergency	Deactivate lock, in case of emergency input, override safety at opening	Emergency input Safety input
4	Fire low prio	Open or close in case of fire, manual opening possible	Fire input
5	Controller	Open or close by input signals override	Lock input
6	Manual	Open or close by manual door movement (pull&go)	Door movement detection
7	user	Door movements controlled by input signals	Open inputs

## 12 Technical specifications

### 12.1 SDA-04 with AC motor

Primary (supply) voltage	: 195 - 253 Volt AC
Net frequency	: 47 - 63 Hz
Power consumption	: Min. 10VA, Max 1900 VA
Power	: Max. 1800N (370W motor)
Fuse (fuse in AC mains inlet)	: 2 x 6.3 Amp, slow, 5x20mm, IEC127
Ambient operating temperature in use	: 0 to +50 degrees Celsius
Ambient operating temperature in storage	: -25 to +60 degrees Celsius
Protection factor	: IP 30
Humidity	: 50.....95%, not condensed
Dimensions (WxHxD)	: 336x123x65mm
Weight	: 2.35 Kg
Output voltage	: Maximum 260 Volt RMS, 0....100 Hz. (regulated)
Power supply for accessories	: 24Vdc, maximum 1 Amp.
Safety inputs 29 and 32 supply)	: Switch to + 24VDC or 0VDC (controller power supply)
Input signals	: Switch to 24VDC (controller power supply)
Output signals (relay)	: Maximum 24 VAC/DC----500mA
<b>Motors</b>	
90 Watt	: WDH250wpx 90W
370Watt	: WDH250wpx 370W

### 12.2 SDA-04DCB2 with DC motor

<b>Power supply</b>	
Primary (supply) voltage	: 100 - 240 VAC
Primary power	: 1.4A
Net frequency	: 47 - 63 Hz
Secondary (regulated) voltage	: 24 VDC
Secondary (regulated) current	: 2.5A
Power consumption	: Min. 10VA, Max 50VA
Mains fuse	: short-circuit proof, self-healing
Fuse (battery)	: 20A
<b>Control</b>	
Ambient operating temperature in use	: 0 to + 50 °C
Ambient operating temperature in storage	: -25 to +60 °C
Output voltage	: Max. 24V (stabilised)
Power supply for accessories	: 24VDC, (1A is available)
Output signals (relay)	: Max. 24V @ 500mA
Protection factor	: IP 30
Humidity	: 50.....95%, not condensed
Dimensions (WxHxD)	: 336x123x65mm (excl. batteries)
Weight	: 0.75 kg (excl. batteries)

**Battery** : CSB-GP1222  
 Ambient operating temperature in use : 25 °C + 30 °C  
 Ambient operating temperature in storage : -15°C to +40 °C

**Motors**  
 Metaflex ZW63-015-24-E WS1 (Door DIN-L)  
 Metaflex ZW63-015-24-E WS2 (Door DIN-R)

Maximum door weight : 120 kg

## 13 Software versions

The available functionality depends on the SDA-04 controller software version.  
 Immediately after switching on, the version number will be displayed for 1 second.  
 The SDA-04 will meet the requirements for the versions in the table below:

SDA-04 Controller featuring EN16005 software	
Version	Description
4.06	Former version
5.00	Changed complete software, incl. Parameters and added multiple functionalities
5.01	Parameter 42 = 2 → Improved functionality Parameter 85, added options 4, 5 and 6 Parameter 88 = 3 or 4 → When in mode "Fire", the virtual signal will disappear
SDA-04DCB2 Controller featuring EN16005 software	
Version	Description
21.00	Former version
22.00	Changed complete software, incl. Parameters and added multiple functionalities

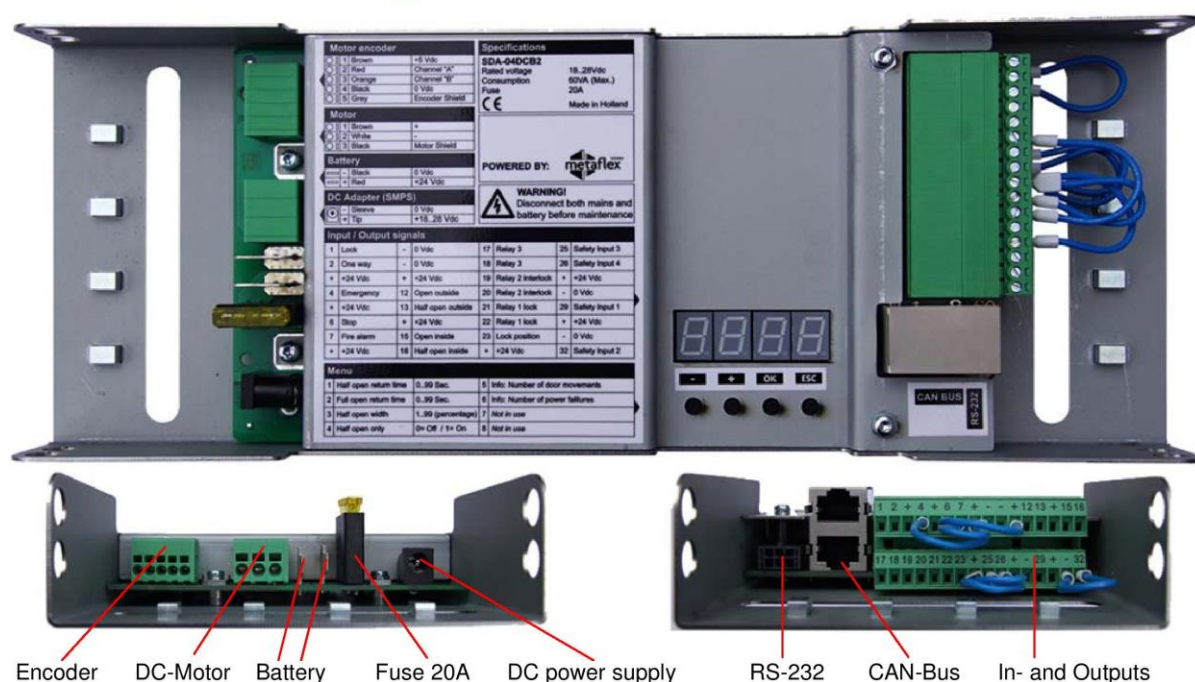


## **14. Connection examples**

## Annex 01: Connecting the SDA-04 controller



## Annex 02: connecting the SDA-04DCB2 controller



### Note:

The controller operates on the basis of pulse contacts.  
When a contact remains closed the door will stay in the position linked to that contact (for instance full open).

Exceptions On the above are the alarm contacts  
(the mutual priority can be found in this manual).

Description:	Principal:	Author:	Version:
<b>SDA-04 Connections</b>	Metaflex Doors Europe BV	ER	<b>1.0</b>
	Project:	Manager:	Date of issue:
	SDA-04 Manual annexes	ER	19-9-2016
2015-04 EN Annexes SDA-04 manuals.vsd		MDE Reference:	Page: 1 of 14
		<b>WWW.METAFLEX.NL</b>	

## Annex 03: Cable colour coding

### Metaflex standard

Brown : + 24Vdc  
Green : 0 Vdc (ground)  
White : Common  
Yellow : Switched signal

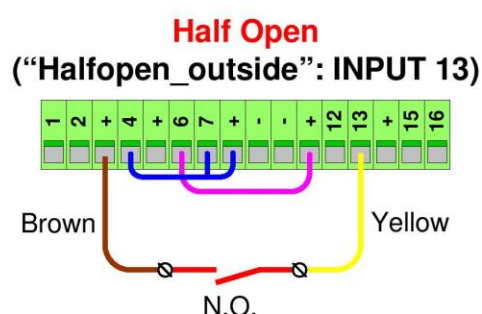
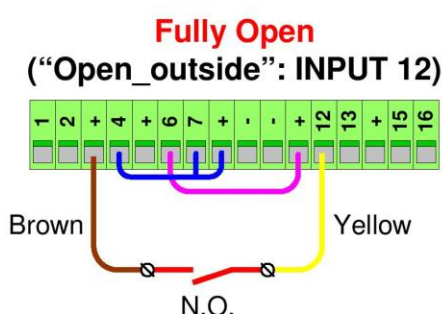
### Photocells / Optocouplers

Brown : + 24Vdc  
Blue : 0 Vdc (ground)  
Black : Active signal

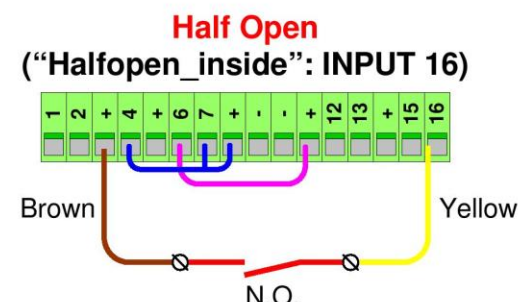
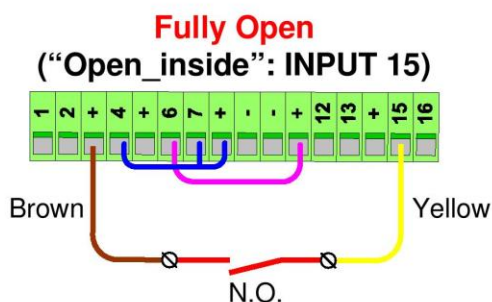
### Active IR Sensors (STD / EN16005)

Brown : + 24Vdc  
Green : 0 Vdc (ground)  
Yellow : N.O. contact (opener)  
White : N.O. contact (opener)  
Pink : N.C. contact (safety)  
Grey : N.C. contact (safety)  
Red : Watchdog  
Blue : Watchdog

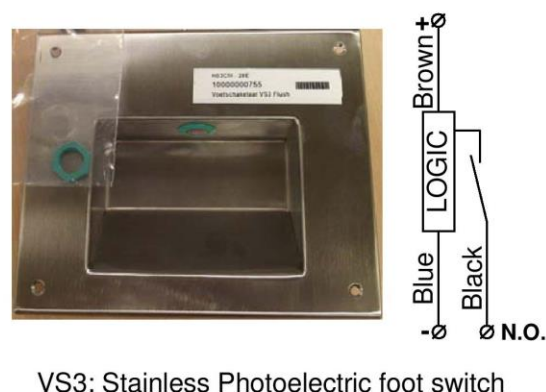
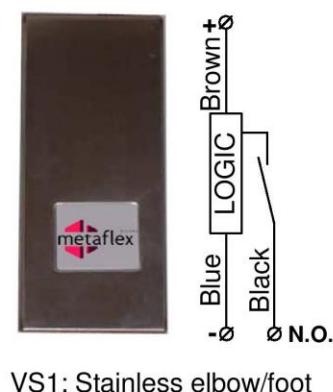
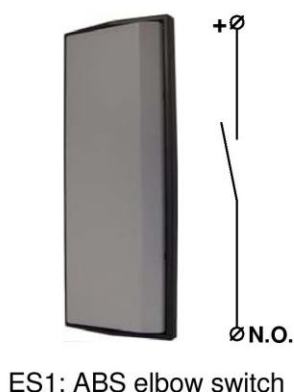
## Annex 04: Standard control, switches on the outside of the room



## Annex 05: Standard control, switches on the inside of the room



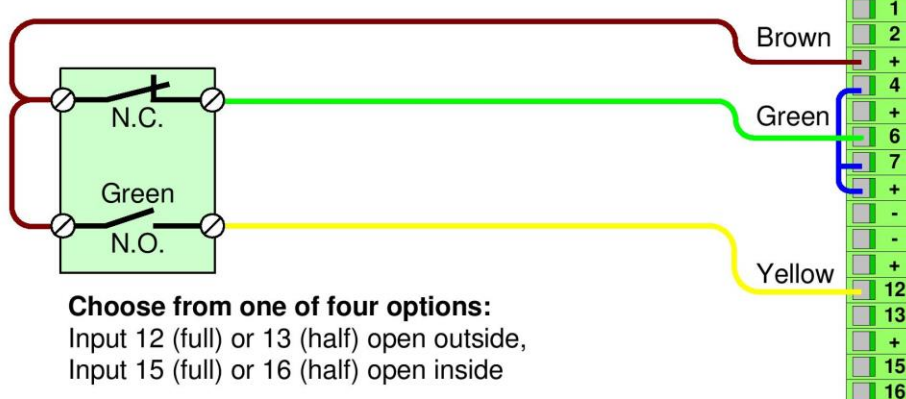
## Annex 06: Metaflex Elbow- and Foot switches



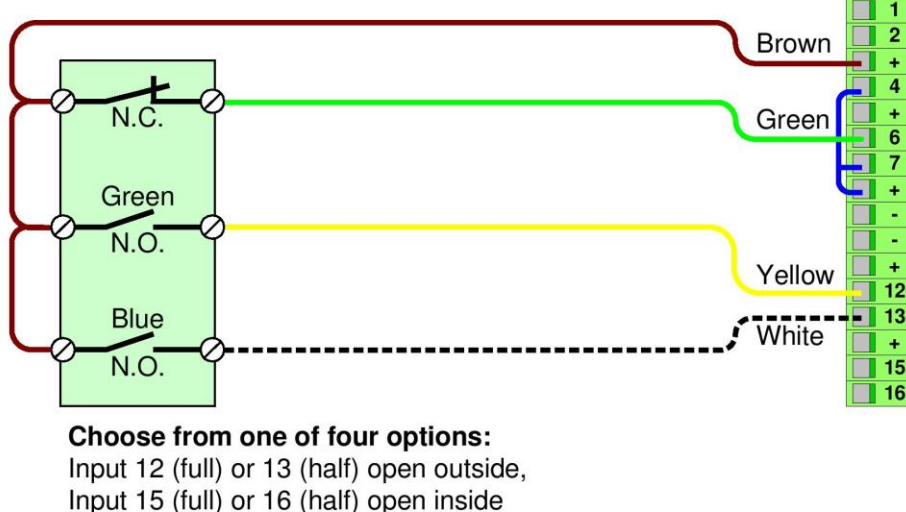
Description: <b>Hand- and Foot switches 1-3</b>	Principal: Metaflex Doors Europe BV	Author: ER Manager: ER	 WWW.METAFLEX.NL	Version: <b>1.0</b> Date of issue: 19-9-2016 Page: 2 of 14
2015-04 EN Annexes SDA-04 manuals.vsdX	Project: SDA-04 Manual annexes	MDE Reference:		



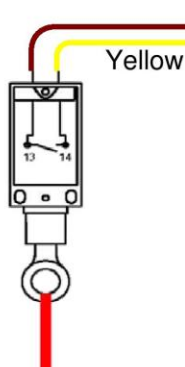
## Annex 07: Surface-mounted switchbox (1x pulse-, 1x stop switch)



## Annex 08: Surface-mounted switchbox (2x pulse-, 1x stop switch)



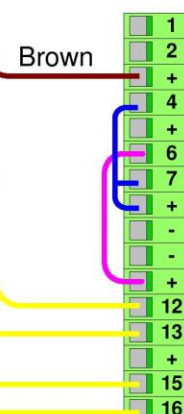
## Annex 09: Pull cord switch



Bernstein SGC-U1Z

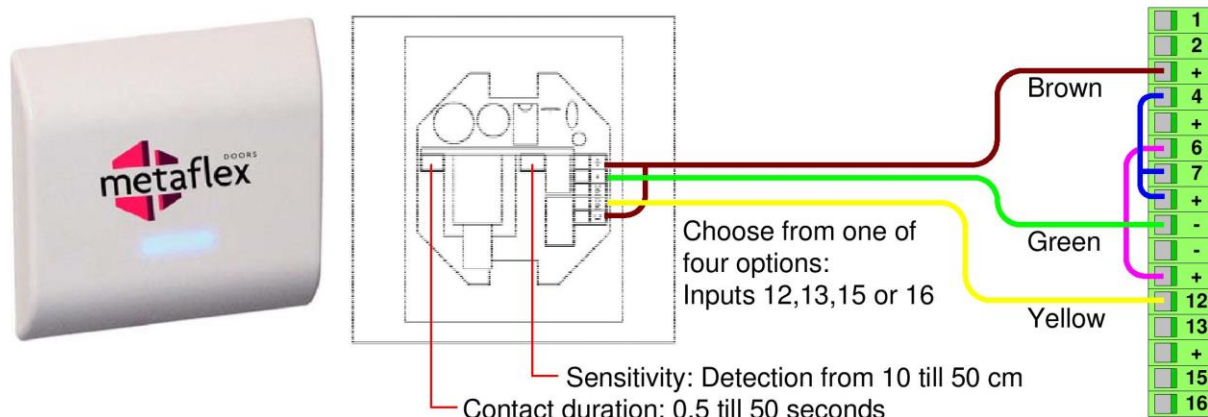
Choose from one of four options:

- (12) Fully open (outside)
- (13) Half open (outside)
- (15) Fully open (inside)
- (16) Half open (inside)



Description: <b>Hand- and Foot switches 2-3</b> 2015-04 EN Annexes SDA-04 manuals.vsdX	Principal: Metaflex Doors Europe BV Project: SDA-04 Manual annexes	Author: ER Manager: ER MDE Reference:	 WWW.METAFLEX.NL	Version: <b>1.0</b> Date of issue: 19-9-2016 Page: 3 of 14
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## Annex 10: Touch-free operation, Magic Switch



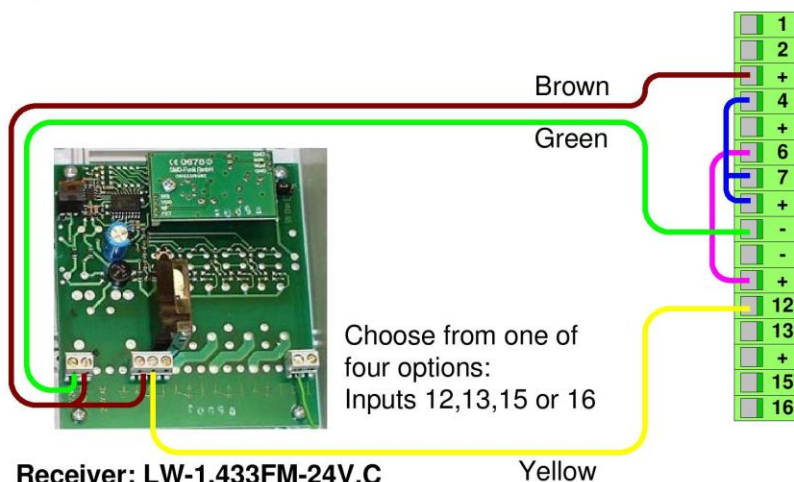
### Specifications:

Technology	: Radar
Detection	: Movement
Supply	: 12..24V AC/DC
Consumption	: < 2 Watt
Output	: N.O. / N.C. selectable contact (Max. 1A)
Ingress protection	: IP 52

## Annex 11: Touch-free operation, RF wireless remote



Transmitter: RZ2-2.433FM



Receiver: LW-1.433FM-24V.C

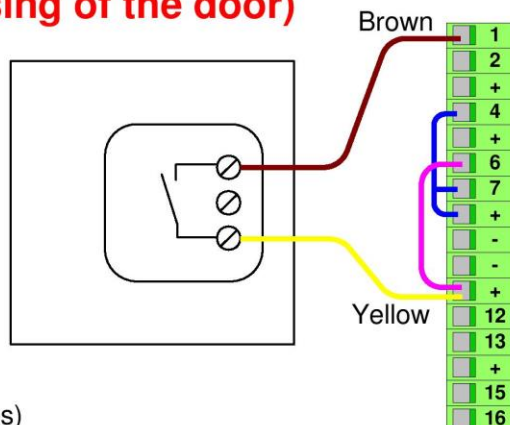
Yellow

### How to match transmitter and receiver:

1. Alter the standard code present in the transmitter (DIP-Switch on the inside of the transmitter).
2. Press and hold one of the keys on the transmitter. Subsequently press and hold the "learn" switch on the receiver for 10 seconds, until the relay in the receiver becomes active.
3. In case of several transmitters or a transmitter with multiple keys repeat step 2 for a receiver with multiple relay outputs

Description: <b>Hand- and Foot switches 3-3</b>	Principal: Metaflex Doors Europe BV	Author: ER	 <b>WWW.METAFLEX.NL</b>	Version: <b>1.0</b>
	Project: SDA-04 Manual annexes	Manager: ER		Date of issue: 19-9-2016
2015-04 EN Annexes SDA-04 manuals.vsdX		MDE Reference:		Page: 4 of 14

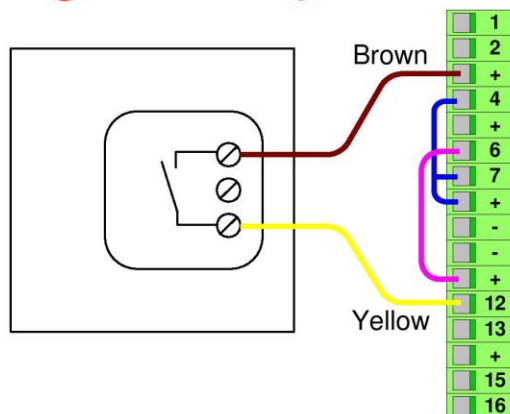
## Annex 12: (Hood) switch (forced closing of the door)



**When the contact is closed:**

The door will be kept forcibly closed (see manual for priorities)

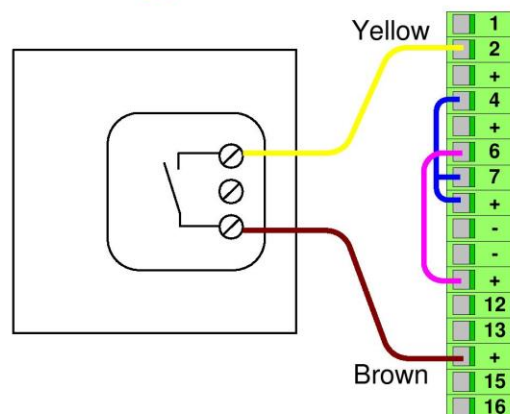
## Annex 13: (Hood) switch (forced opening of the door)



**When the contact is closed:**

The door will be kept forcibly open (see manual for priorities)

## Annex 14: (Hood) switch (one way traffic only)



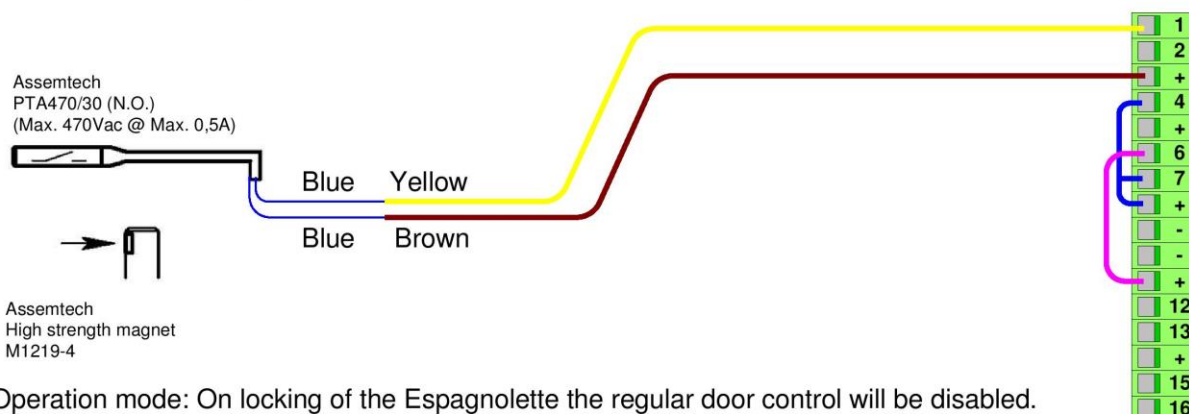
**When the contact is closed:**

Only switches connected to inputs 15 and 16 ("inside switches") will work

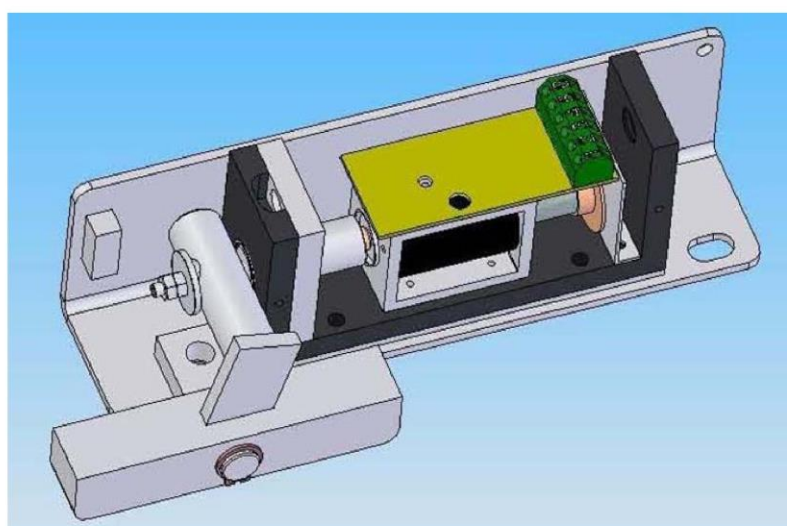
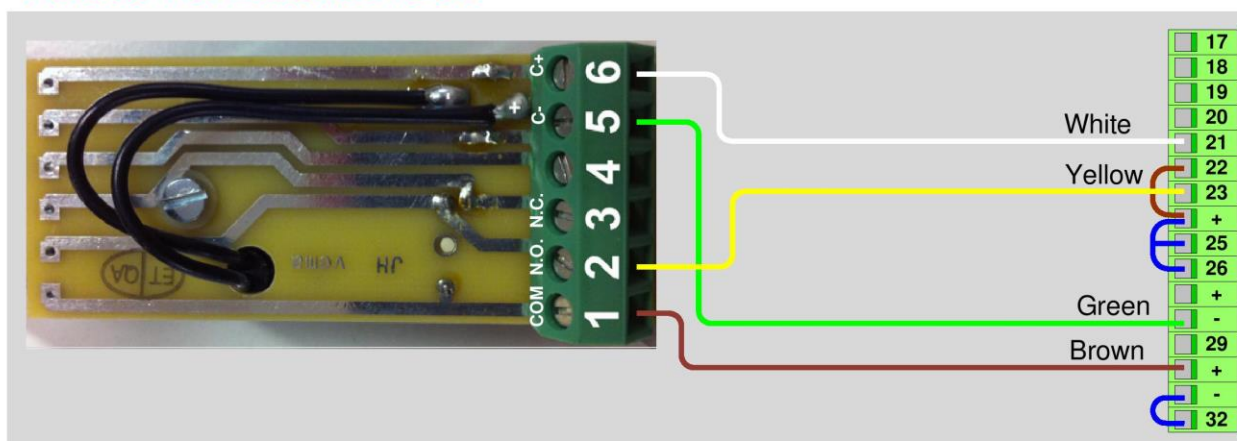
Description: <b>Locking 1-2</b>	Principal: Metaflex Doors Europe BV	Author: ER Manager: ER	 WWW.METAFLEX.NL	Version: <b>1.0</b> Date of issue: 19-9-2016 Page: 5 of 14
2015-04 EN Annexes SDA-04 manuals.vsdX	Project: SDA-04 Manual annexes	MDE Reference:		



## Annex 15: Espagnolette feedback for MF5



## Annex 16: Balance lock

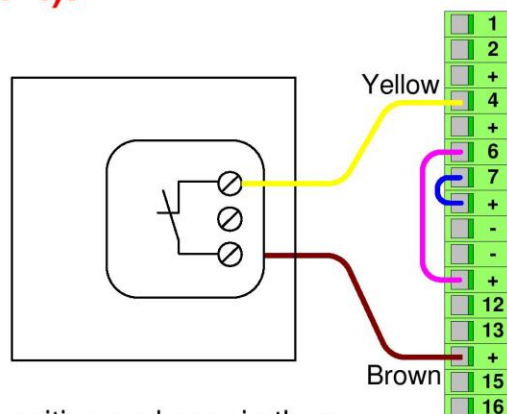


### Mounting sequence:

1. Adjust the door
2. Position the balance lock so that the lock lever can move freely downwards
3. Slide the wedge to the left or right until it rests on the anchor plate

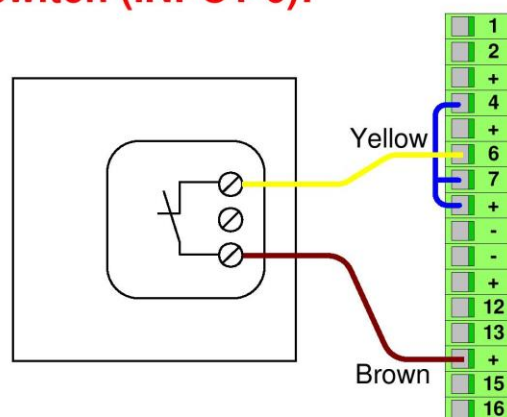
Description: <b>Locking 2-2</b>	Principal: Metaflex Doors Europe BV Project: SDA-04 Manual annexes	Author: ER Manager: ER MDE Reference:	 WWW.METAFLEX.NL	Version: <b>1.0</b> Date of issue: 19-9-2016 Page: 6 of 14
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## Annex 17: Emergency Unlock (INPUT 4):

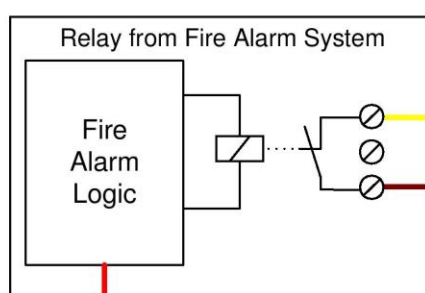


On contact open the door will go to the fully open position and remain there

## Annex 18: Stop push button or key switch (INPUT 6):



## Annex 19: Door control via a Fire Alarm System (INPUT 7):



Guarded Data Connection

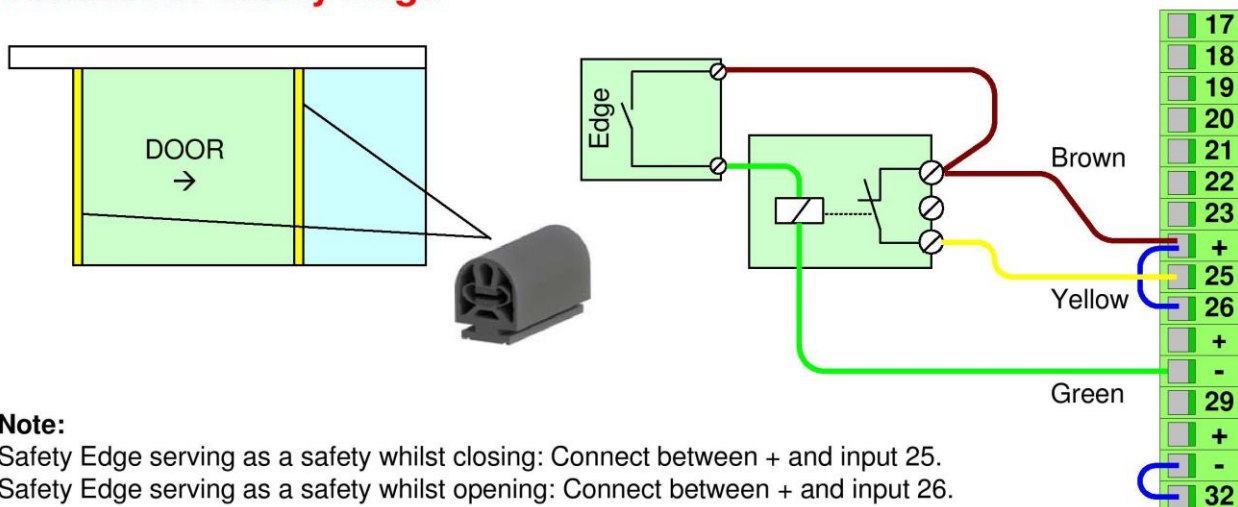
### Programming:

Please refer to the manual to learn about the possible settings of parameter 84

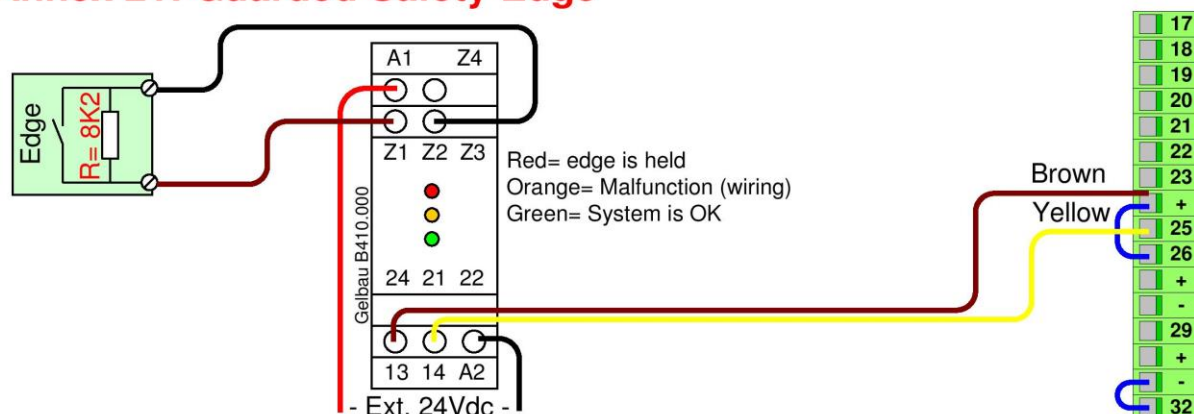
Description: <b>Forced Control</b>	Principal: Metaflex Doors Europe BV	Author: ER Manager: ER	 WWW.METAFLEX.NL	Version: <b>1.0</b> Date of issue: 19-9-2016 Page: 7 of 14
2015-04 EN Annexes SDA-04 manuals.vsdX	Project: SDA-04 Manual annexes	MDE Reference:		



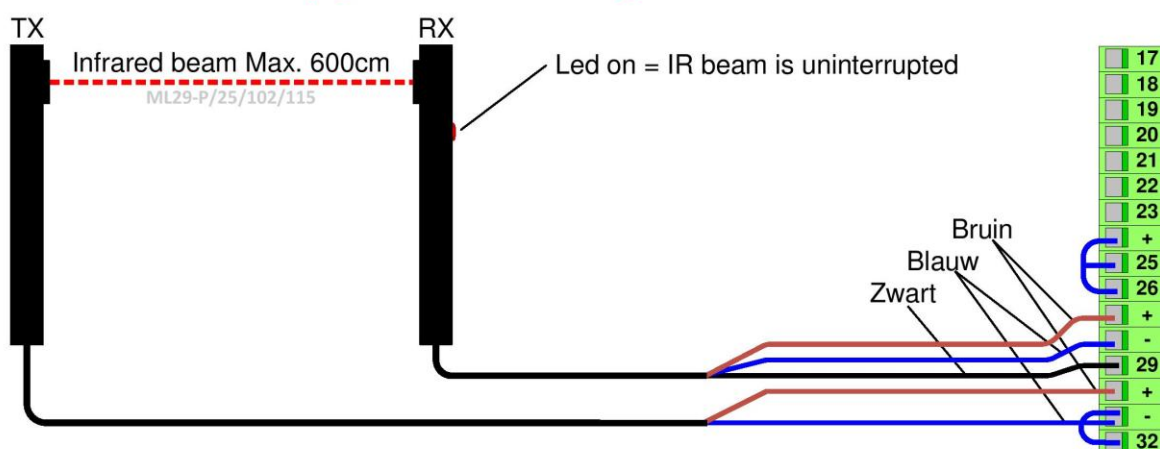
## Annex 20: Safety Edge



## Annex 21: Guarded Safety Edge



## Annex 22: Doorway photocell safety



Description:	Principal:	Author:	ER	Version:	1.0
Safety's (STD) 1-2	Metaflex Doors Europe BV	Manager:	ER	Date of issue:	19-9-2016
2015-04 EN Annexes SDA-04 manuals.vsdX	Project:	MDE Reference:	WWW.METAFLEX.NL	Page:	8 of 14
	SDA-04 Manual annexes				

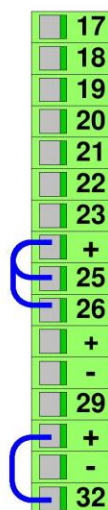
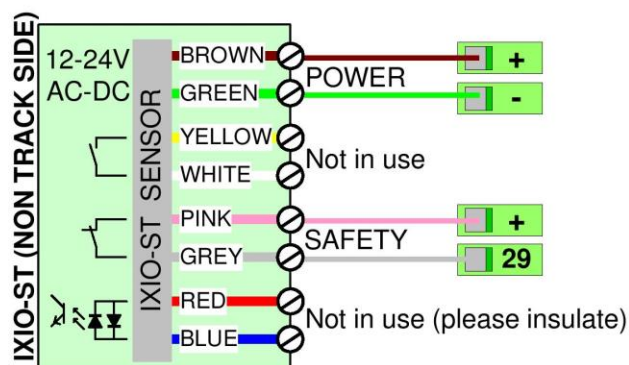
## Annex 23: Infrared closing edge protection

**IXIO-ST**



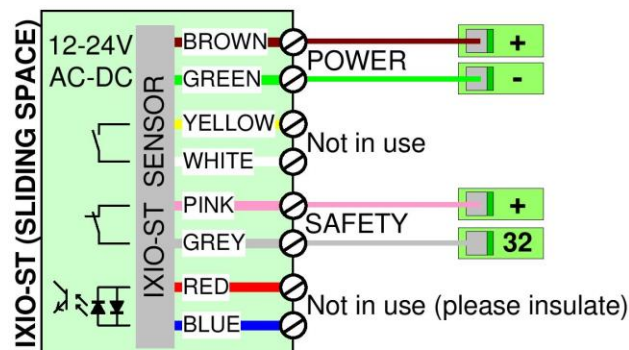
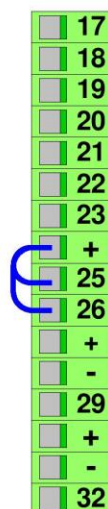
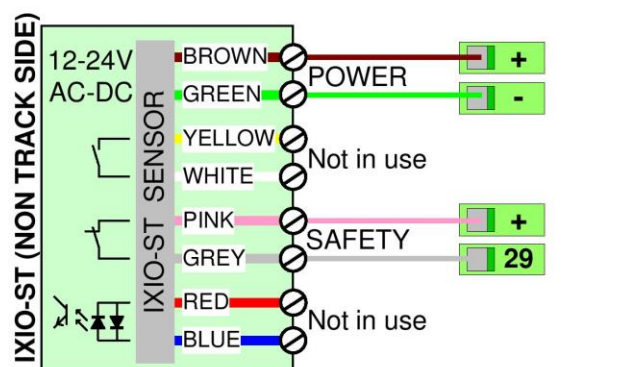
### Attention:

When a door is put to use in a (light) industrial environment, the EN16005 is not applicable.



## Annex 24: Infrared closing edge and sliding space protection

**IXIO-ST**



Description: <b>Safety's (STD) 2-2</b>	Principal: Metaflex Doors Europe BV	Author: ER Manager: ER	 WWW.METAFLEX.NL	Version: <b>1.0</b> Date of issue: 19-9-2016 Page: 9 of 14
2015-04 EN Annexes SDA-04 manuals.vsdX	Project: SDA-04 Manual annexes	MDE Reference:		



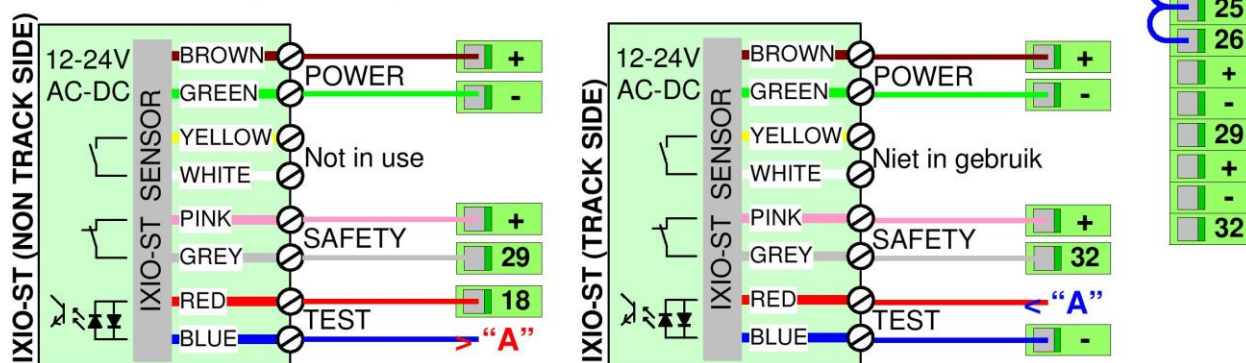
## Annex 25: Closing edge protection according to (EN16005)

**IXIO-ST**



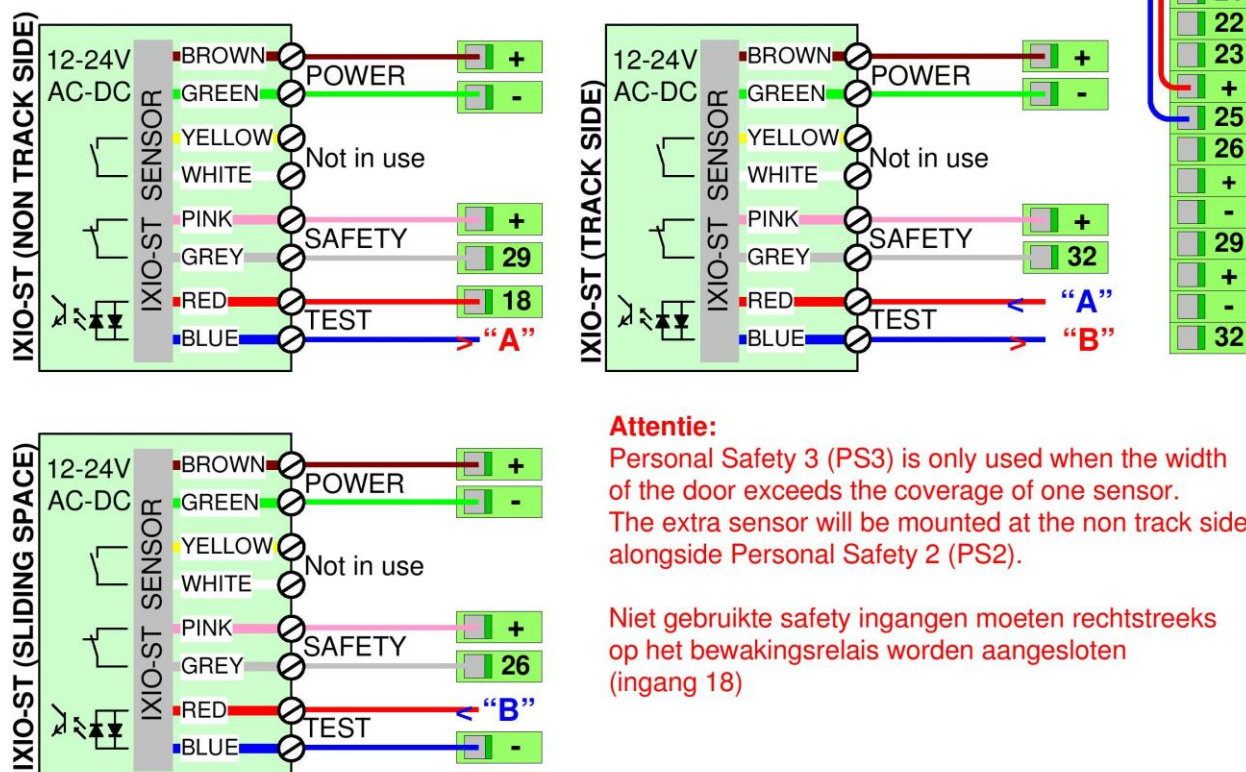
### Attention:

When no sliding space safety is in use;  
establish a wire bridge between points 18, 25 and 26



## Annex 26: Closing edge and sliding space protection (EN16005)

**IXIO-ST**



### Attentie:

Personal Safety 3 (PS3) is only used when the width of the door exceeds the coverage of one sensor.  
The extra sensor will be mounted at the non track side alongside Personal Safety 2 (PS2).

Niet gebruikte safety ingangen moeten rechtstreeks op het bewakingsrelais worden aangesloten (ingang 18)

Description:	Principal:	Author:	ER	Version:	1.0
Safety's (EN16005)	Metaflex Doors Europe BV	Manager:	ER	Date of issue:	19-9-2016
2015-04 EN Annexes SDA-04 manuals.vsdX	Project:	MDE Reference:	WWW.METAFLEX.NL	Page:	10 of 14
	SDA-04 Manual annexes				

## Annex 27: Relay 3 configuration for beacon light operation

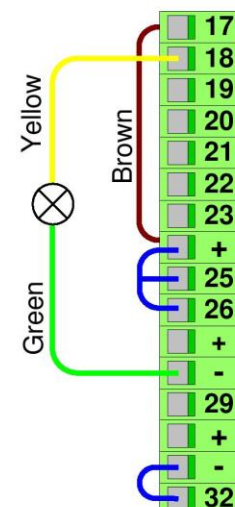
### Setting the SDA-04:

When parameter 74 is set to 2 relay 3 will become active for 4 seconds prior to, and during closing, of the door. Connecting a beacon light as shown on the right will provide an early warning system.

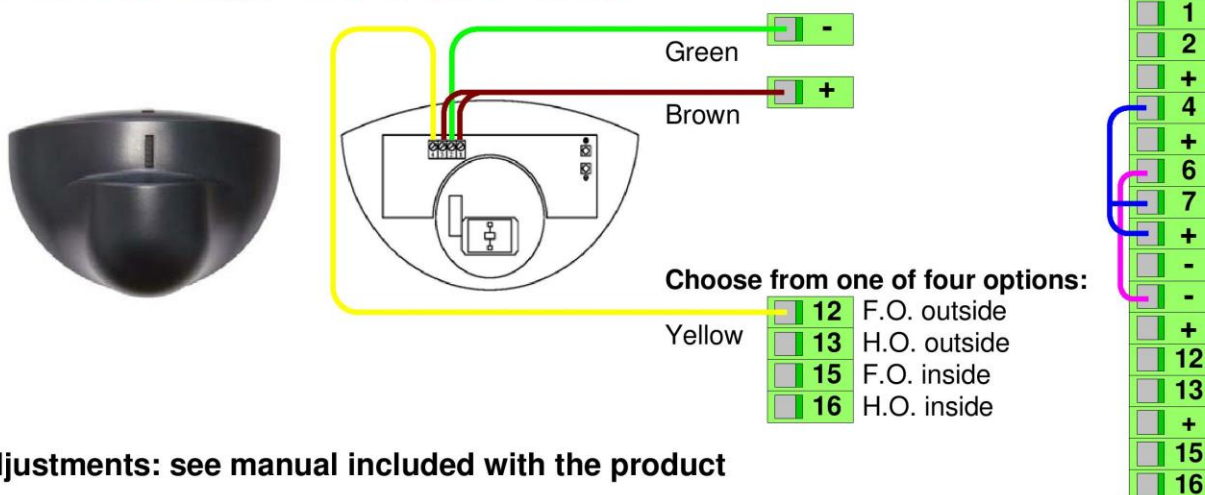
Another possible functions for parameter 74 are:

Parameter 74 set to 1: Relay 3 becomes active when the door has fully opened

Parameter 74 is set to 3: Relay 3 becomes active in when the door is half open



## Annex 28: Eagle One radar detector



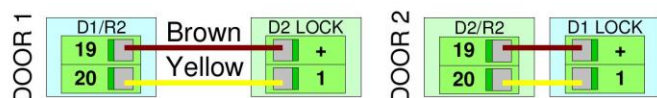
Adjustments: see manual included with the product

Description: <b>Miscellaneous</b>	Principal: Metaflex Doors Europe BV Project: SDA-04 Manual annexes	Author: ER Manager: ER MDE Reference:	 <b>WWW.METAFLEX.NL</b>	Version: <b>1.0</b> Date of issue: 19-9-2016 Page: 11 of 14
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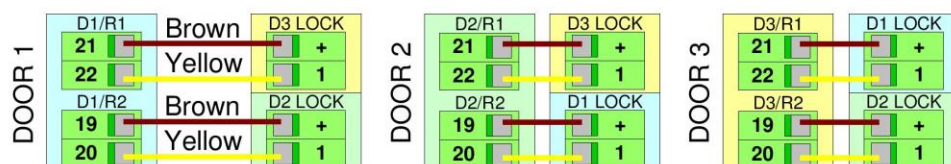


## Annex 29: Interlocking

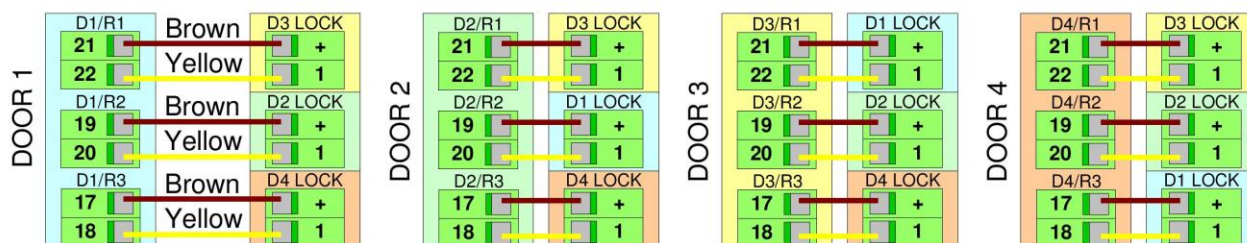
### Interlock consisting of 2 doors



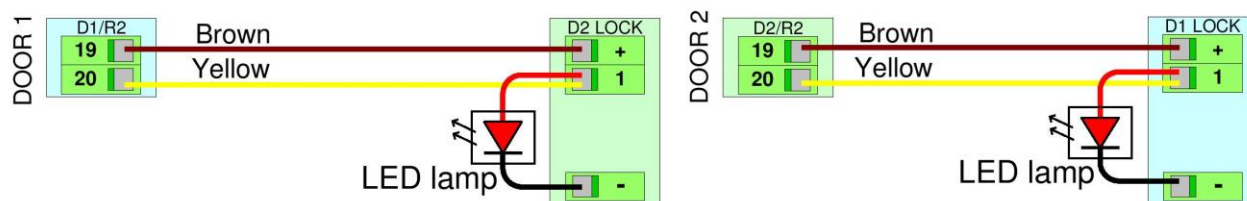
### Interlock consisting of 3 doors



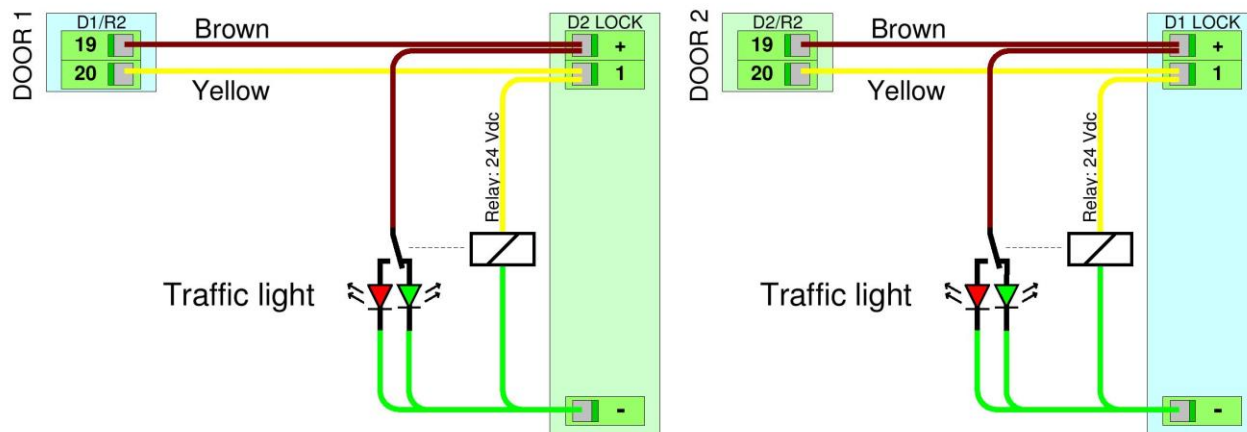
### Interlock consisting of 4 doors



### Interlock light (Operation is identical for each door)

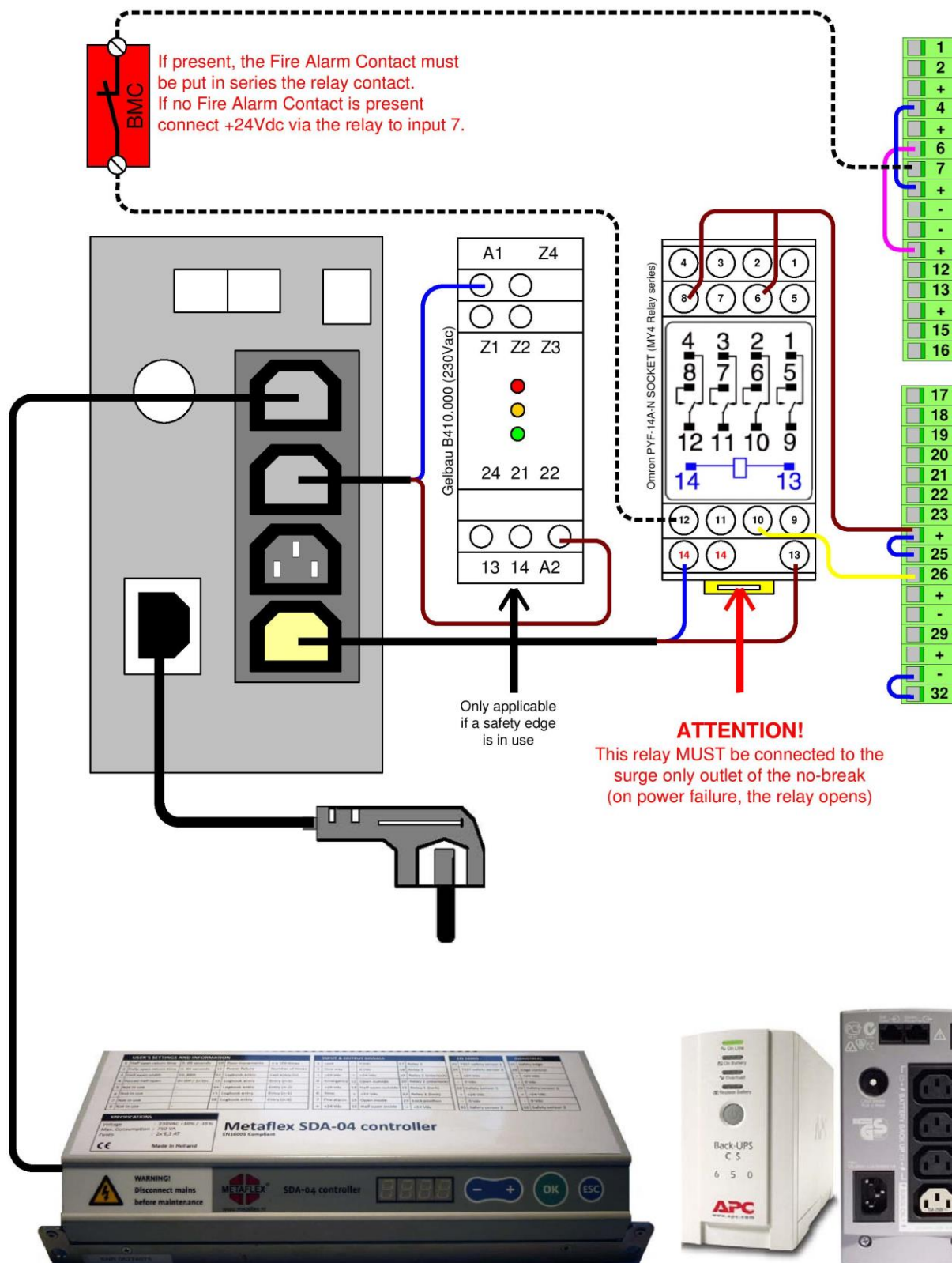


### Traffic light (Operation is identical for each door)

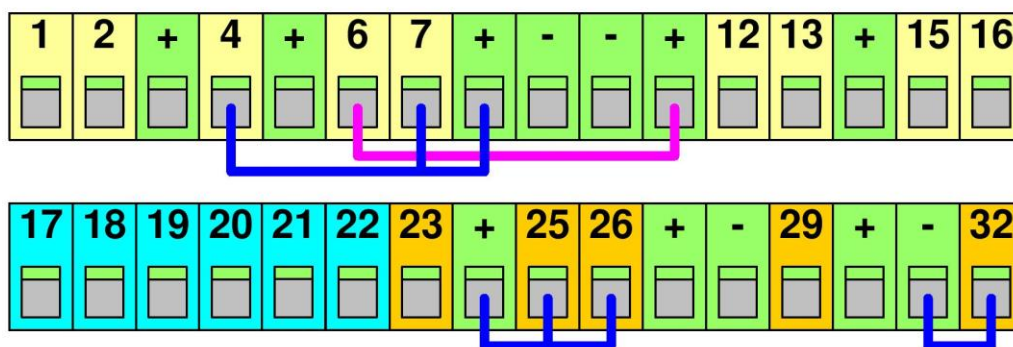


Description:	Principal:	Author:	ER	Version:	1.0
Interlock	Metaflex Doors Europe BV	Manager:	ER	Date of issue:	19-9-2016
2015-04 EN Annexes SDA-04 manuals.vsd	Project:	MDE Reference:	WWW.METAFLEX.NL	Page:	12 of 14
	SDA-04 Manual annexes				

## Annex 30: Emergency power combined with forced closing



Description: <b>Emergency Power</b>	Principal: Metaflex Doors Europe BV	Author: ER Manager: ER MDE Reference:	 WWW.METAFLEX.NL	Version: <b>1.0</b> Date of issue: 19-9-2016 Page: 13 of 14
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	Inputs		Explanation	
1	Lock		Forced closing and locking of the door	
2	One way		Block acces in one direction (exit only)	
4	Emergency		Emergency (please refer to manual)	
6	Stop		Stop (immediately stopping the doors movement)	
7	Fire		Fire (please refer to manual)	
12	Full open outside		Fully opens the door (outside mounted switch)	
13	Half open outside		Half opens the door (outside mounted switch)	
15	Full open inside		Fully opens the door (inside mounted switch)	
16	Half open inside		Half opens the door (inside mounted switch)	
	Outputs		Explanation	
	Function (STD)	Function (EN16005)		
17	Relay 3	Watchdog	N.O. / N.C. (default not programmed) Watchdog	
18				
19	Relay 2	Relay 2	N.O. / N.C. (default programmed to <b>interlock</b> )	
20				
21	Relay 1	Relay 1	N.O. / N.C. (default programmed to <b>lock</b> )	
22				
	Safety's		Explanation	
	Function (STD)	Function (EN16005)		
23	Lock pos./trigger	Lock pos./trigger	Feedback signal of an external lock or event trigger	
25	Safety Edge	Personal Safety 3	N.C. contact from safety edge	AIR Safety 3
26	Edge control	Personal Safety 4	Safety Edge montoring	AIR Safety 4
29	Photocell 1	Personal Safety 1	NPN/PNP Photocell 1	AIR Safety 1
32	Photocell 2	Personal Safety 2	NPN/PNP Photocell 2	AIR Safety 2
	Power supply			
+	+24Vdc internal power supply (Maximum load 750mA)			
-	0Vdc and signal ground			

Description: <b>SDA-04 In- and Outputs</b>	Principal: Metaflex Doors Europe BV	Author: ER	 <b>WWW.METAFLEX.NL</b>	Version: <b>1.0</b>
	Project: SDA-04 Manual annexes	Manager: ER		Date of issue: 19-9-2016
	2015-04 EN Annexes SDA-04 manuals.vsdX	MDE Reference:		Page: 14 of 14