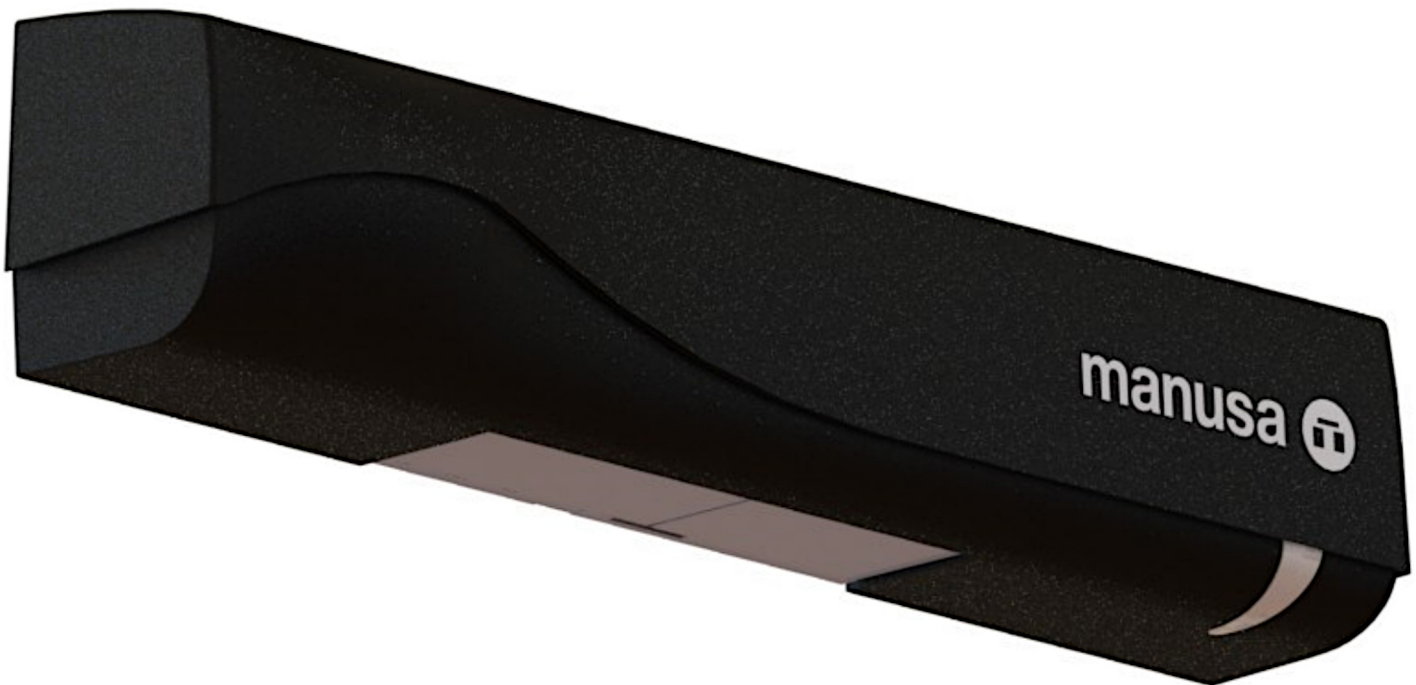




Puertas & Portones Automaticos, S.A. de C.V.
¡Nuestra pasión es la Solución!....

» **SENSOR DE MOVIMIENTO HÍBRIDO PARA PUERTA AUTOMÁTICA CORREDIZA
MARCA MANUSA MOD.DDS-A Y MOD.DDS-B.**



MANUAL DE INSTALACION



INSTALLATION MANUAL

DDS-A / DDS-B HYBRID SENSORS

This manual has been compiled according to standard UNE-EN-ISO 12100.

Read thoroughly all of these instructions before using the unit.

This manual includes all the necessary information required to install the product.

Keep this manual in a safe place for future reference.

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1 DESCRIPTION

- 1.1 SYMBOL DESCRIPTION
- 1.2 TOOLS REQUIRED
- 1.3 SAFETY INSTRUCTIONS
- 1.4 TECHNICAL DATA

2 COMMISSIONING

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- 2.2 WIRING
- 2.3 RADAR OUTPUT CONFIGURATION
- 2.4 FIELD SETTING
- 2.5 OTHER SETTINGS
- 2.6 SETUP
- 2.7 USING THE LCD SCREEN

3 USER MENU

4 TROUBLESHOOTING

5 INSTALLATION CHECKLIST

6 MAINTENANCE

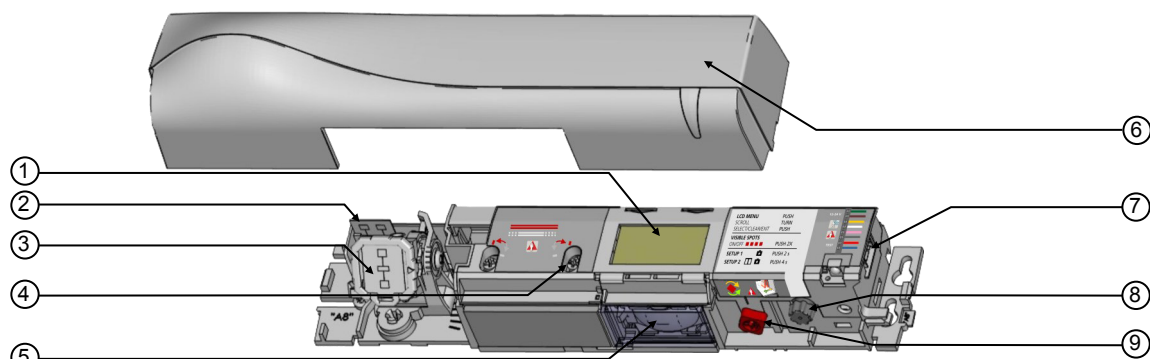
- 6.1 MAINTENANCE TO BE CARRIED OUT BY THE USER
- 6.2 MAINTENANCE RESTRICTED TO THE MANUFACTURER

7 DECLARATION OF CONFORMITY

1 DESCRIPTION

The DDS-A and DDS-B Hybrid Sensors are combined activation and protection devices, specifically designed for automatically opening and securely closing **Manusa** sliding doors. These sensors meet the requirements detailed in the Standard EN 16005 for doors installed in emergency exits.

The figures below show the sensor's basic components and the detection areas:



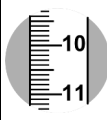

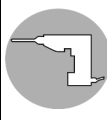
- | | | |
|-------------------------------|----------------------------|---------------------------------|
| ① LCD screen | ④ Infrared curtain setting | ⑦ Main connector |
| ② Radar antenna: narrow field | ⑤ Infrared lenses | ⑧ Main settings button |
| ③ Radar antenna: wide field | ⑥ Cover | ⑨ Infrared angle setting button |



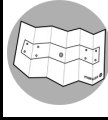
1.1 SYMBOL DESCRIPTION

The symbol that appear in this manual is the next:

IMPORTANT WARNING. Strictly adhere to the indications provided with this symbol.

1.2 TOOLS REQUIRED

	Tape measure
	Spirit level
	Drill

	Flathead screwdriver
	Drill Bits: Ø 3 Ø 8
	Mounting template

1.3 SAFETY INSTRUCTIONS

All national and international provisions relating to door safety must be observed. The installation and commissioning of the sensor should only be carried out by authorised technical staff. Any servicing or repair works on the sensor should only be carried out by **manusa**.

Any other use of the device different from its intended purpose shall be excluded from the manufacturer's guarantee.

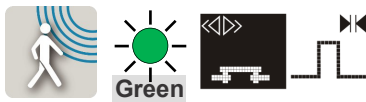
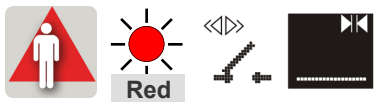
This device may only be operated with protective low voltage (SELV) with safe electrical insulation.

The installing company shall be responsible for the correct installation of the sensor and the door safety elements.

The manufacturer shall not be liable for incorrect sensor installations or inappropriate settings which have not been implemented by **manusa**.

When handling the sensor, great care must be taken in order not to interfere with its correct operation.

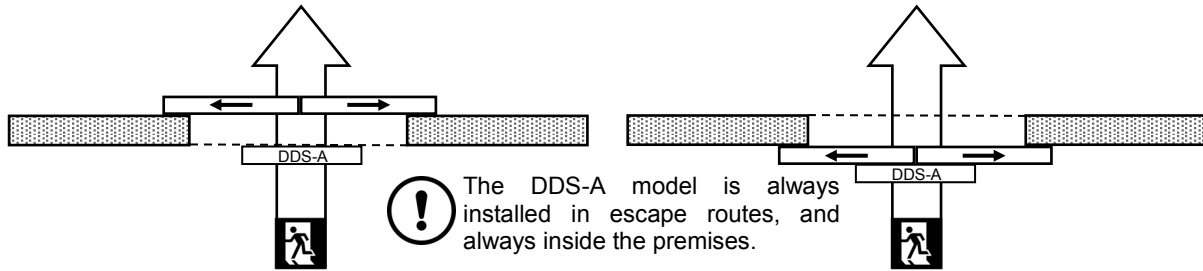
1.4 TECHNICAL DATA

Power supply	12V - 30V DC +/-10% To be operated from SELV-compatible power supplies only	
Power consumption	< 2.5W	
Mounting height	2 to 3.5 m (internal regulations may affect the acceptable mounting height)	
Operating temperature	-25° up to 55° C; 0 at 95% RH, without condensation	
Protection class	IP54	
Noise	<70 dB	
Useful life	20 years	
Reaction time	< 200ms (max. 500ms)	
Applicable directives	R&TTE 1999/5/EC; MD 2006/42/EC; LVD 2006/95/EC; ROHS 2 2011/65/EU	
Infrared angle points setting	-7° up to +3.5°	
Detection mode	<p style="text-align: center;">MOTION</p> <p>Minimum detection velocity: 5 cm/s</p>  <p style="text-align: center;">Green</p>	<p style="text-align: center;">PRESENCE</p> <p>Typical response time: <200ms (500ms max.)</p>  <p style="text-align: center;">Red</p>
Technology	Microwave Doppler radar Emission frequency: 24,150 GHz Radiated power: <20 dBm EIRP Emitted power density: <5 mW/cm ²	Infrared active with environmental scanning Spot: 5cm x 5cm (typical) Spots per curtain: max 24. Number of curtains: 2
Input / Output	<p>Solid-state relay (without potential or polarity) Maximum current output: 100mA Max. circuit-breaking capacity: 42V AC/DC</p> <p style="text-align: center;">DDS-A Exclusive Characteristics</p> <p>Output frequency: Pulse signal (f=100Hz +/-10%)</p> <p>Output current: Galvanically-isolated power supply 'No detection' state Power supply ON Open circuit voltage: 6.5V Output voltage for 10mA 3V min. Typical load: up to 3 optocouplers in series 'Detection' state Power supply OFF Open circuit residual voltage <500mV</p>	<p>Input: Pulse polarity: positive or negative (adjustable) Impedance:</p> <ul style="list-style-type: none"> • "Positive" pulse: 2K to earth • "Negative" pulse: 470R to the '+' of the power source <p>Pulse voltage: from 6V to 30V Pulse duration: from 4µs to 500µs Work cycle: Max. 50%</p> <p>Output: Pulse polarity: negative Level:</p> <ul style="list-style-type: none"> • No detection: Pulse between the '+' of the power source and 0V • Detection: the "+" of the power source <p>Topology: open collector with 4.7K to 3.3V Maximum sink current: 25mA with 1K external resistance towards 24V</p>
Certification	<p>EN 12978 EN ISO 13849-1:2008 PL <d> EN 16005:2012 Chapter 4.6.8; DIN 18650-1:2010 Chapter 5.7.4; AutSchR BS 7036-1:1996 Chapter 7.3.2 (Only applicable to frequency and current outputs)</p>	<p>EN 12978 EN ISO 13849-1:2008 PL <d> (on the condition that the door controller monitors the sensor at least once for every door cycle) IEC 61496-1:2012 ESPE Type 2 EN 16005:2012 Chapter 4.6.8; DIN 18650-1;2010 Chapter 5.7.4 BS 7036-1:1996 Chapter 8.1</p>

2 COMMISSIONING

The recommended commissioning sequence is as follows: installation, connection, start-up and settings.

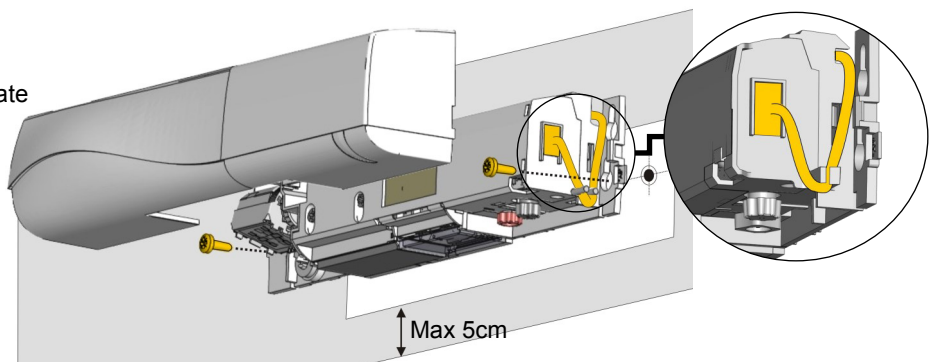
2.1 MOUNTING



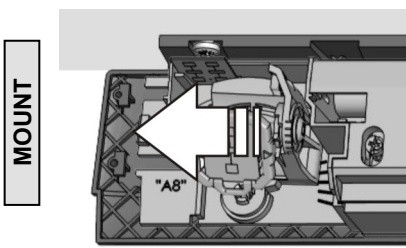
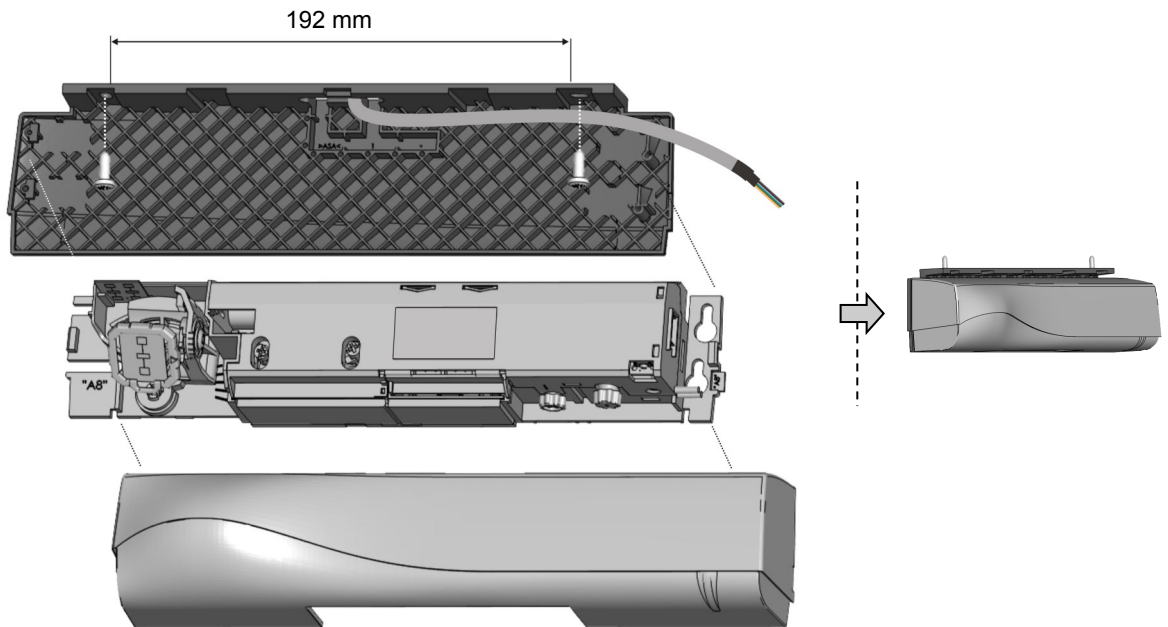
! The DDS-A model is always installed in escape routes, and always inside the premises.

2.1.1 STANDARD MOUNTING

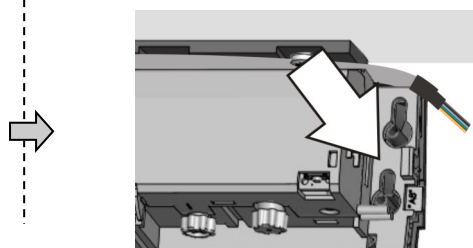
1. Remove the protective cover
2. Connect the cable
3. Position the drilling template
4. Drill the holes and remove the template
5. Pass the cable through and install the sensor



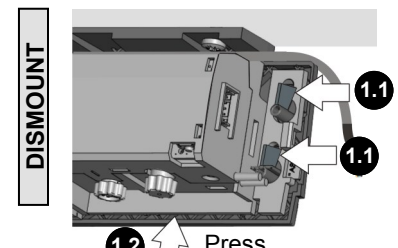
2.1.2 SURFACE MOUNTING (OPTIONAL)



1 Slide



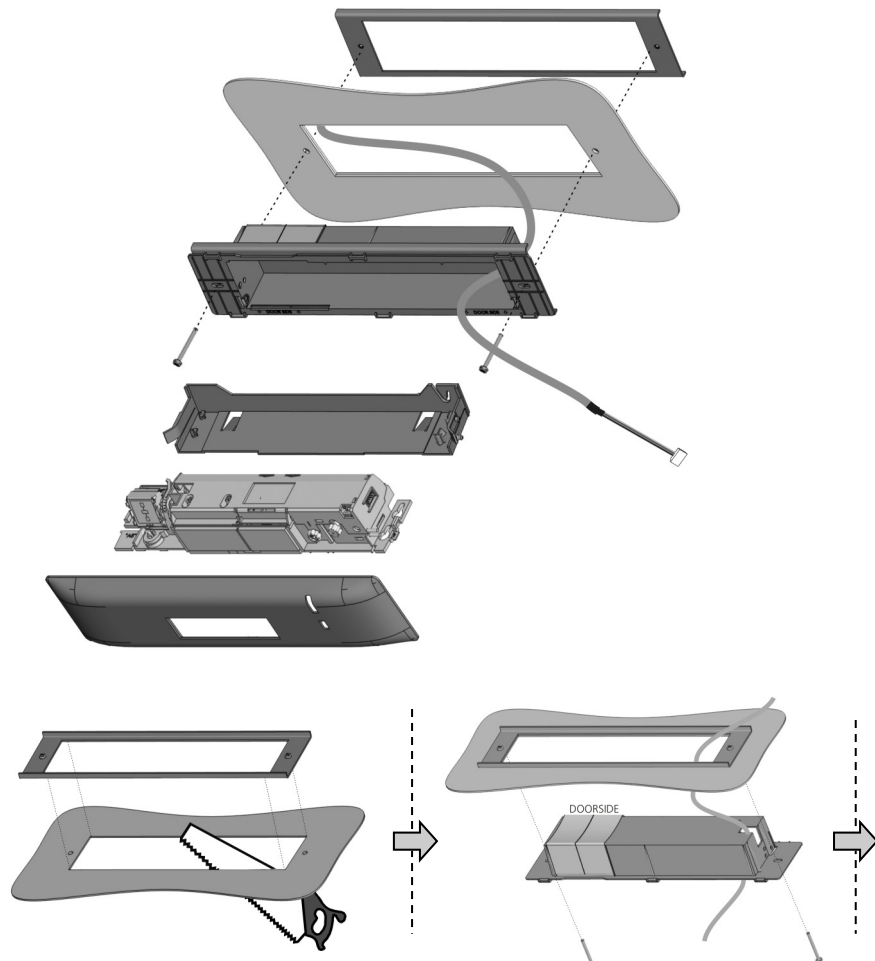
2 Clip



1 Unclip

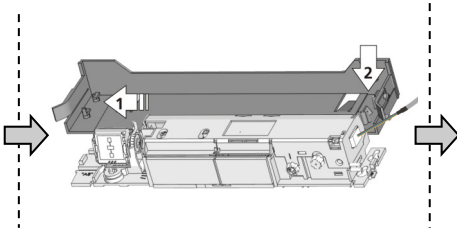
2.1.3 CEILING MOUNTING

OPC

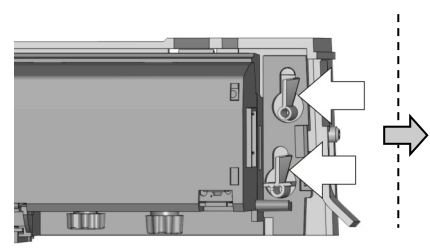


1 Cut

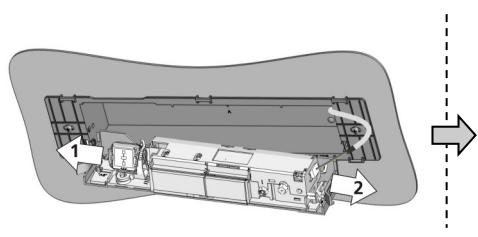
2 Screw together



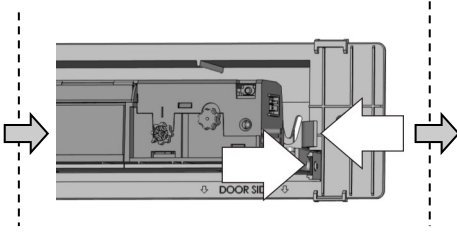
3 Clip



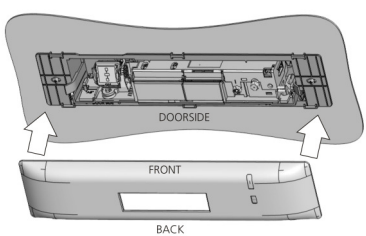
4 Unclip



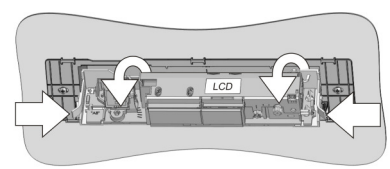
5 Clip



6 Unclip

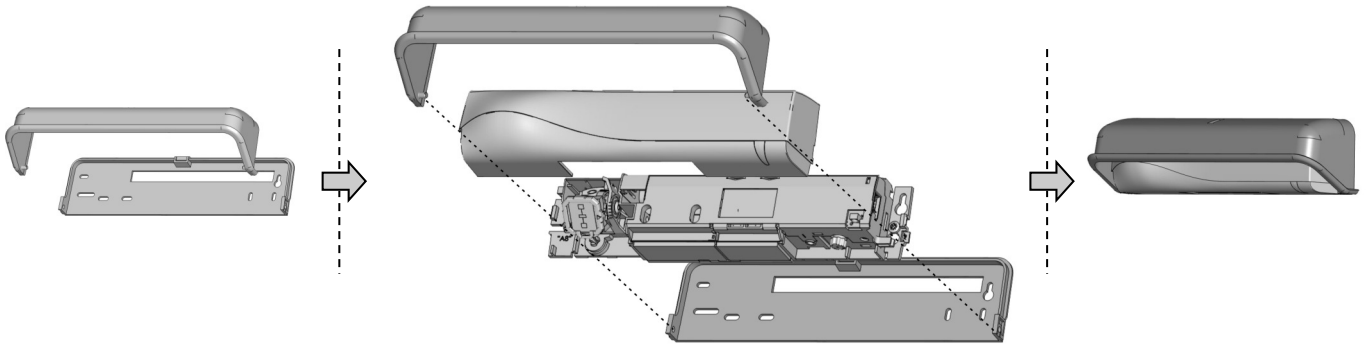


7 Clip

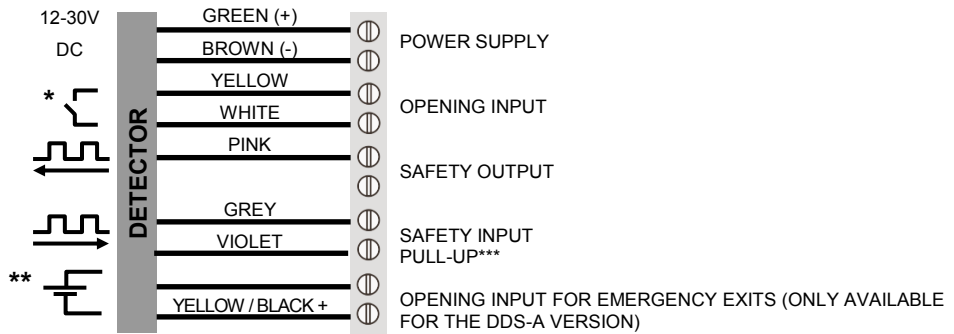


8 Clip

2.1.4 MOUNTING WITH RAIN PROTECTION (OPTIONAL)



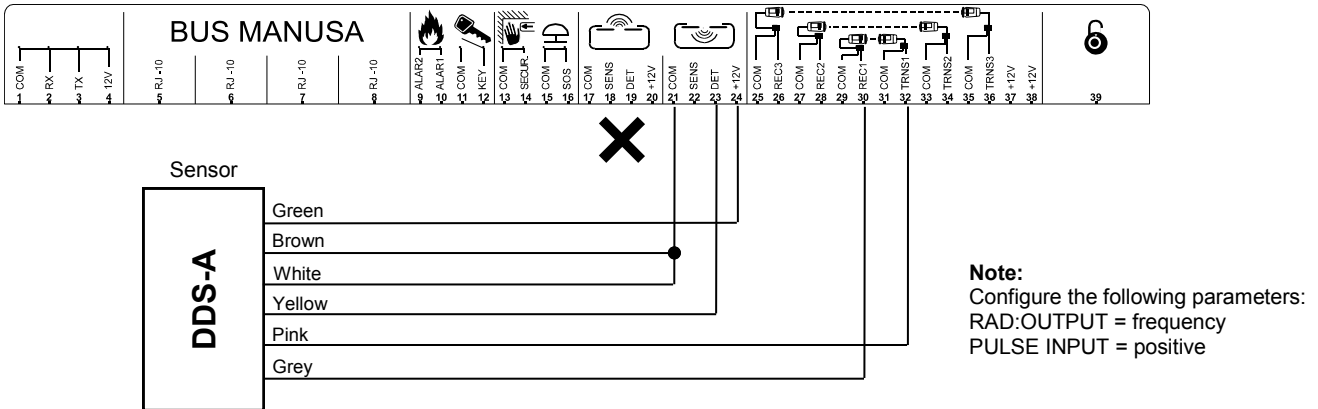
2.2 WIRING



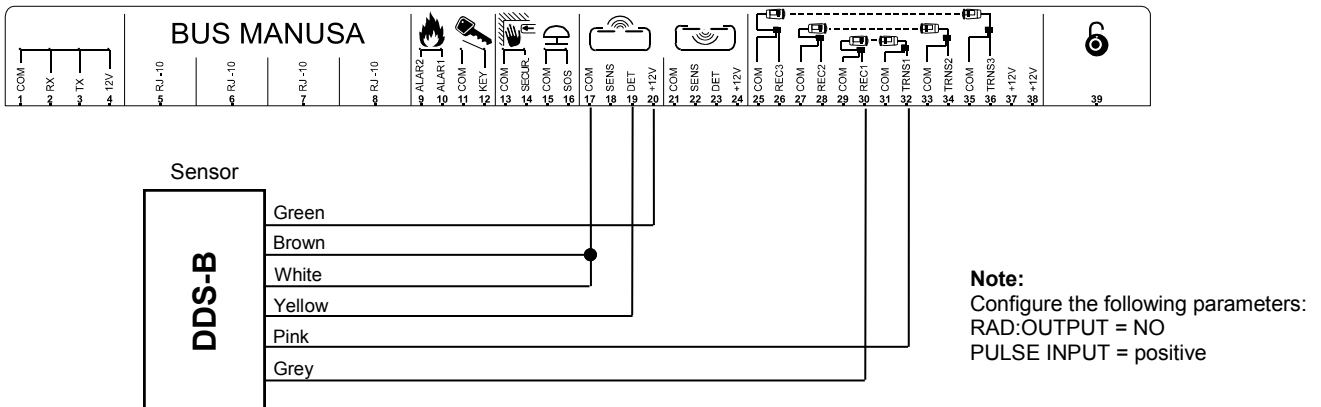
- * Output status with the sensor in operation
- ** Powers supply for emergency exits (only available for the DDS-A version)
- *** Bravo operators: Plug at 12V

2.2.1 CONNEC-

2.2.1.a Connecting the DDS-A sensor in emergency exit doors

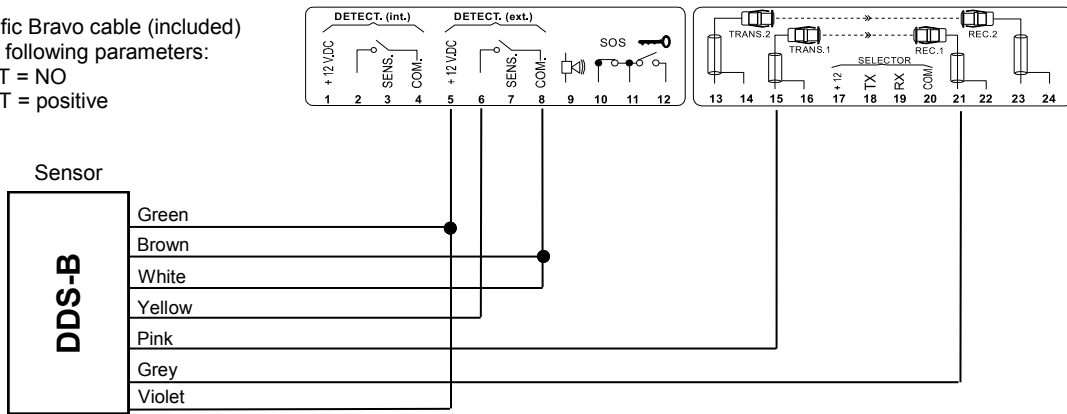


2.2.1.b Connecting the DDS-B sensor in general purpose doors



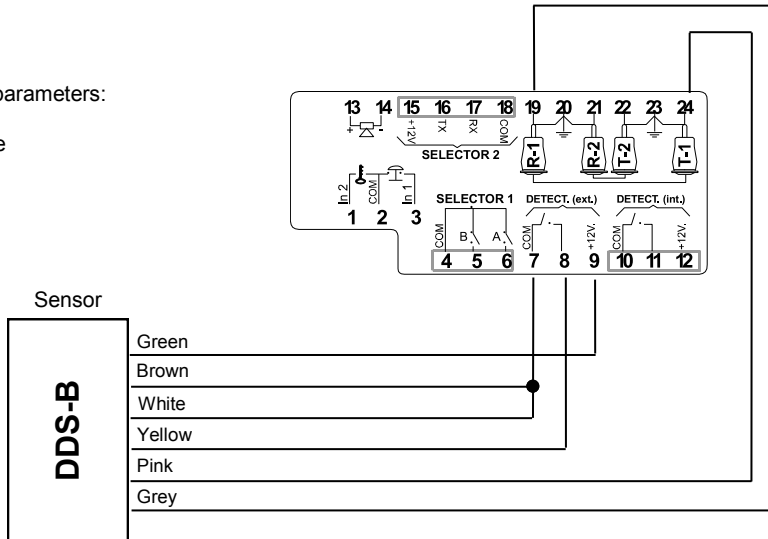
2.2.2 CONNECTION TO BRAVO OPERATOR (Only compatible with DDS-B)

Note:
 Use the specific Bravo cable (included)
 Configure the following parameters:
 RAD:OUTPUT = NO
 PULSE INPUT = positive



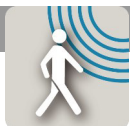
2.2.3 CONNECTION TO ACTIVA OPERATOR (Only compatible with DDS-B)

Note:
 Configure the following parameters:
 RAD:OUTPUT = NO
 INPUT PULSE = positive



2.3 RADAR OUTPUT CONFIGURATION (Only compatible with DDS-A)

Choose the desired output type:



1.- RELAY output

NO: Normally OPEN

NC: Normally CLOSED

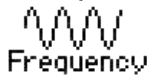
Rad:Output

Rad:Output



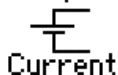
2.- FREQUENCY output

Rad:Output



3.- CURRENT Output

Rad:Output

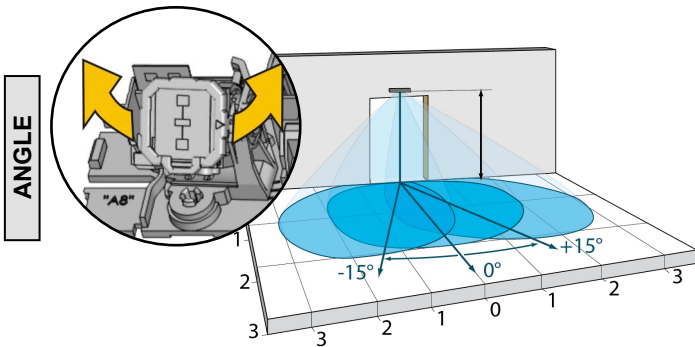


2.4 FIELD SETTING

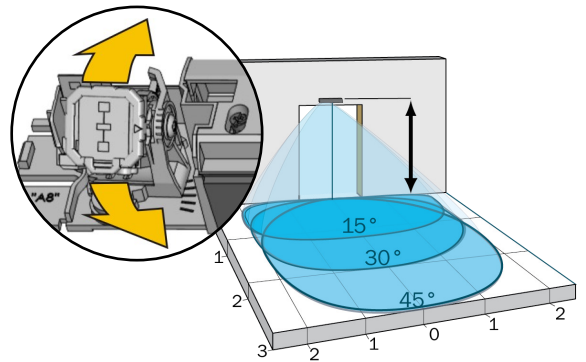
2.4.1 SETTING THE OPENING FIELD - RADAR



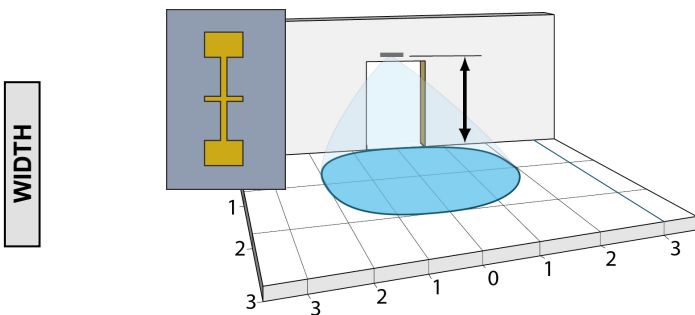
Choose the desired output type:



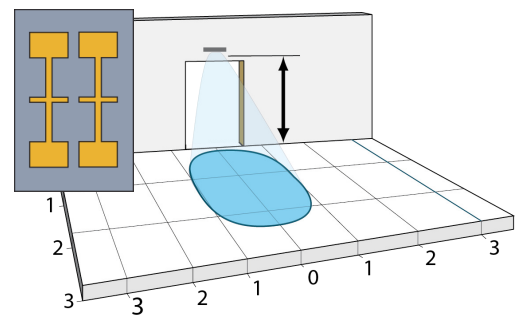
Angle: -15° to +15° / field dimensions: 9 / immunity: 2



Angle: +15° to +45° / field dimensions: 9 / immunity: 2



Area: 4 x 2m / field dimensions: 9 / immunity: 2



Area: 2 x 2.5m / field dimensions: 9 / immunity: 2

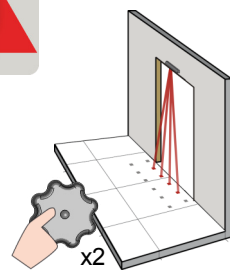


The size of the detection fields varies depending on the mounting height of the sensor. For emergency exits, the entire door width should be covered.

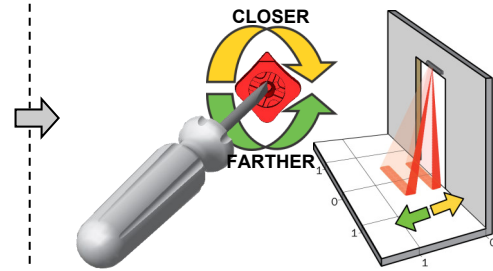


2.4.2 SETTING THE SAFETY FIELD - INFRARED

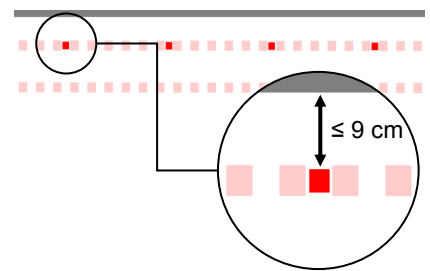
ANGLE



1 Activate visible spots



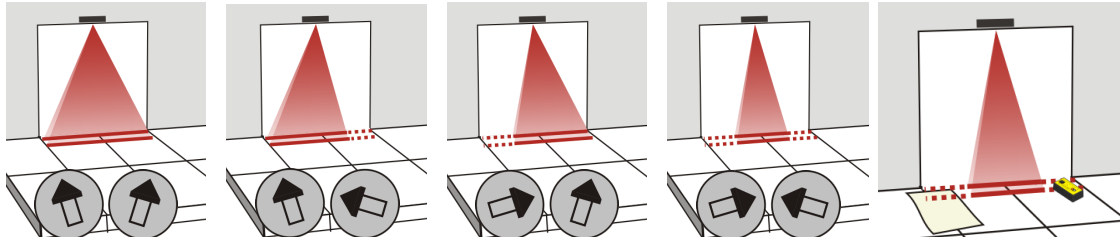
2 If necessary, adjust the angle of the infrared curtains



*Visibility depends on external conditions. If the spots are not visible, the Spotfinder helps to locate the position of the curtains.
 **The distance between the inner curtain of the inside door sensor and the inner curtain of the outside door sensor should always be less than 20cm.

The distance up to the door leaf depends therefore on the thickness of the door leaf.

WIDTH

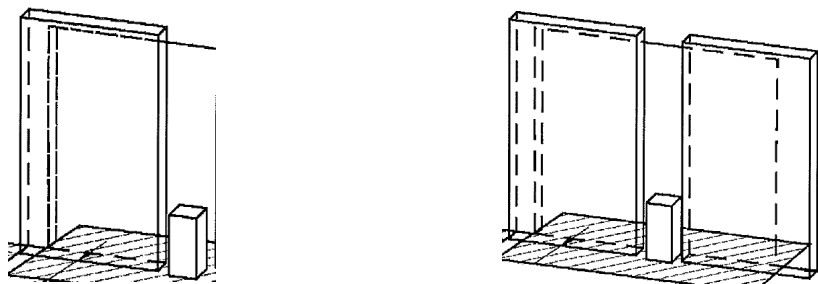


Possible additional settings through the LCD.

Part of the emitted field can be covered in order to reduce the detection field. The position of the arrow determines the field width.

Always check the field width with a piece of paper and not with the Spotfinder, that detects the entire emitted field.

The size of the detection fields varies depending on the mounting height and the settings of the sensor. The sensor should cover the whole width of the door leaf/leaves. To verify, use the reference body as per EN 16005.



2.5 OTHER SETTINGS



Set the sensor by LCD or choose one of the presets:

1.- STANDARD: standard in- and outdoor installations

Presettings
Standard

2.- CRITICAL ENVIRONMENT: critical installations due to surroundings or weather (immunity 'High', 1 active curtain).

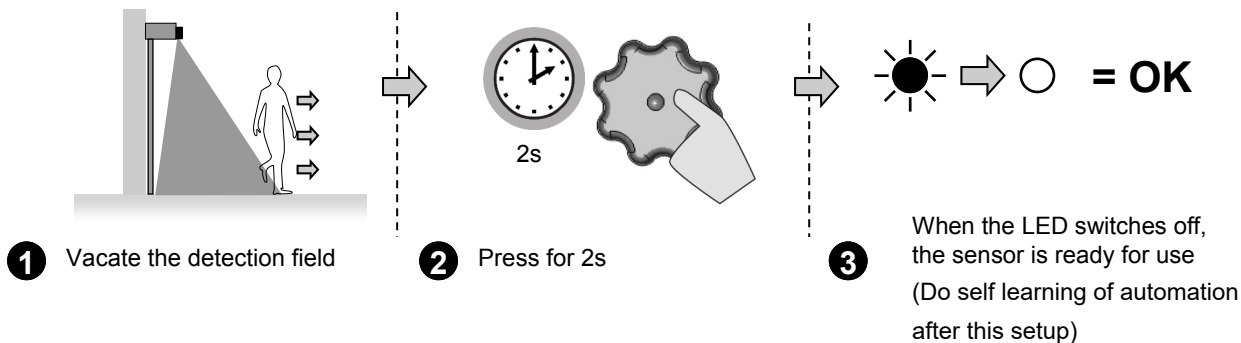
Presettings
Critical env.

3.- SHOPPING STREET: Installations in narrow streets with pedestrian traffic (immunity: 'High', redirection: 'Safety and opening')

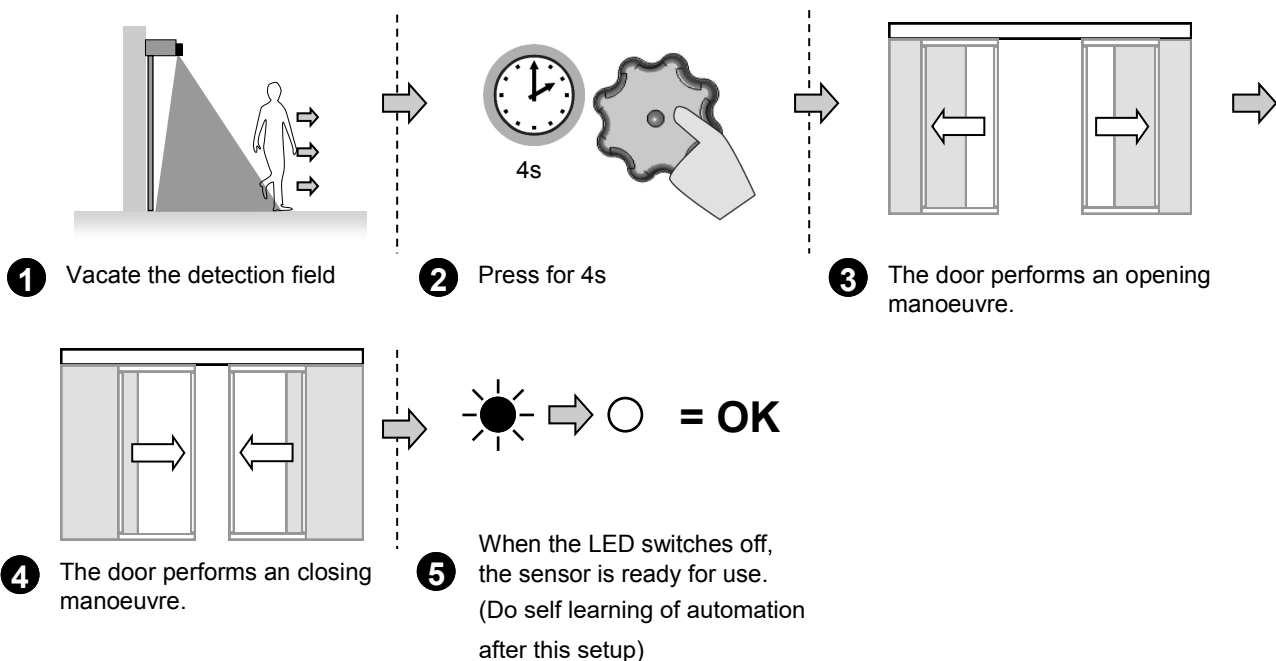
Presettings
Shopping str.

2.6 SETUP

2.6.1 QUICK SETUP

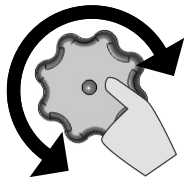


2.6.2 ASSISTED SETUP

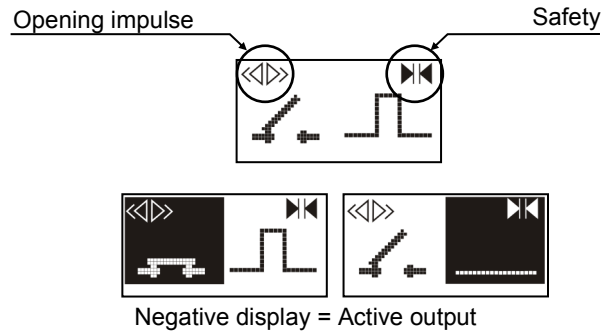


2.7 USING THE LCD SCREEN

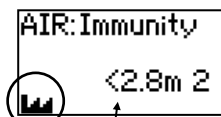
2.7.1 INSTRUCTIONS DURING NORMAL OPERATION



To adjust the contrast, simultaneously press and turn the grey button



2.7.2 FACTORY VALUE vs. SAVED VALUE



Displayed value = Factory value

AIR:Immunity



Displayed value = Saved Value

2.7.3 NAVIGATING THE MENUS

1 Push to enter the LCD-menu



2 Enter password if necessary
Not during the first minute after power-on of the sensor



3 Select your language before entering the first LCD-menu. During the first 30 seconds after power-on of the sensor or later in the diagnostics menu.



4 Scroll menu items



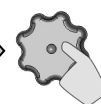
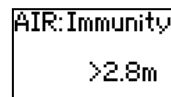
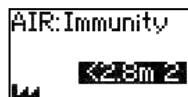
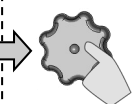
5 Select **Back** to return to previous menu or display.



6 Select **More** to go to next level:
- basic settings
- advanced settings
- diagnostics



2.7.4 CHANGING VALUES



1 Scroll menu up-down

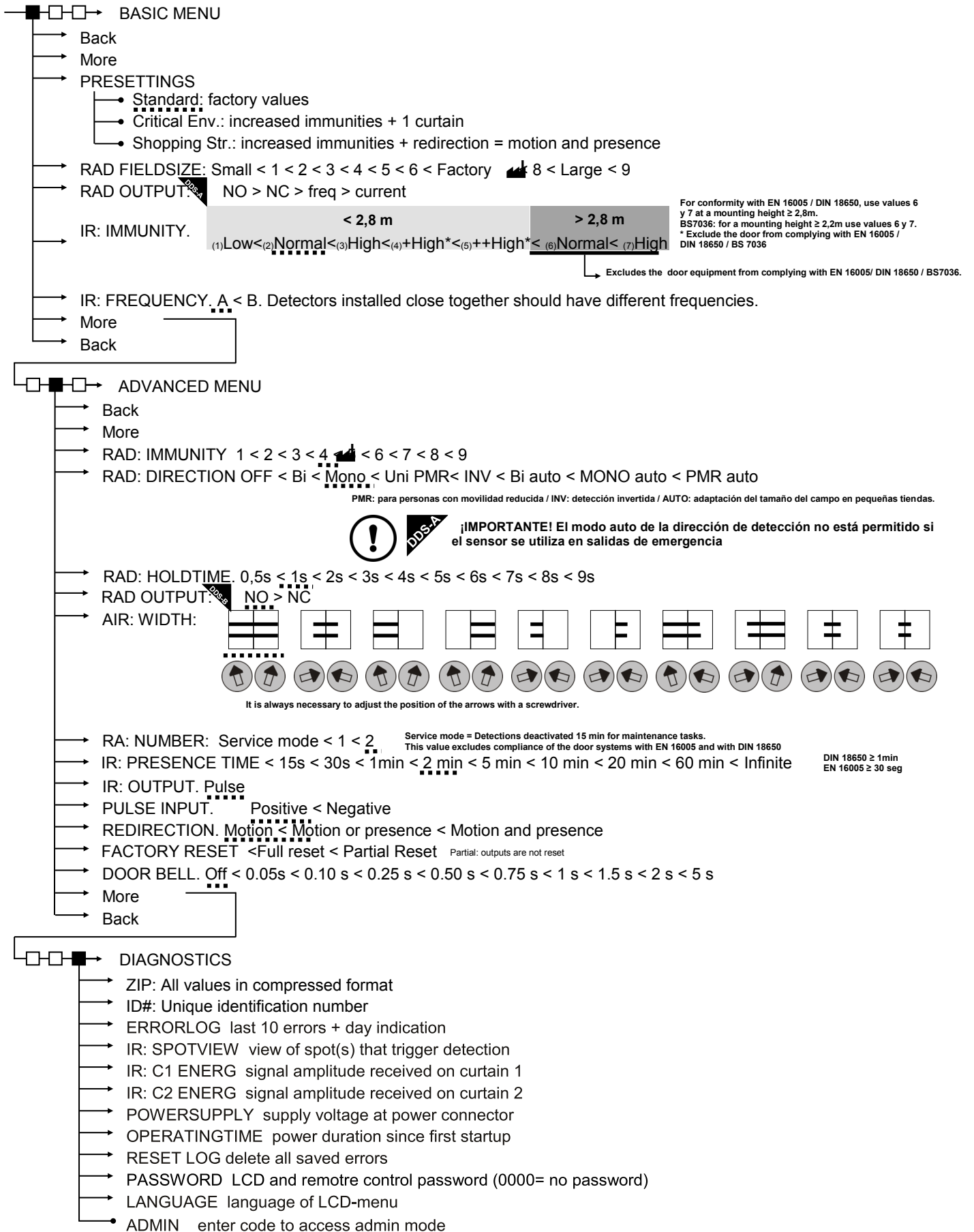
2 Push to select parameter

3 Scroll values up-down. More values are displayed.



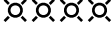
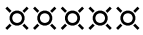
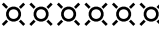
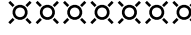
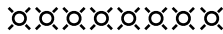







4 Push to save new value.

3 USER MENU

NAVIGATION MAP:



4 TROUBLESHOOTING

LED	STATUS	Error	Solution
ORANGE	 Flashes once	The sensor signals an internal fault	1. Replace sensor.
	 Flashes twice	Erroneous activation of the radar without apparent outside effect	1. Check the power supply in the diagnostics menu. 2. Check the wiring.
	 Flashes 4 times	The sensor is not receiving sufficient infrared energy.	1. Check the angle of the infrared curtains. 2. Increase the AIR immunity filter: values >2.8m. 3. Deactivate 1 curtain.
	 Flashes 5 times	The sensor is receiving too much infrared energy. The sensor is disturbed by external elements.	1. Slightly increase the angle of the IR-curtains. 2. Decrease the IR-immunity filter (values 1-3 <2.8 m). 1. Eliminate the cause of disturbance (lamps, rain cover, door controller housing properly grounded)
	 Flashes 6 times	The radar output is defective.	1. Replace the sensor.
	 Flashes 7 times	The internal test of the radar is disturbed.	1. Change radar field angle or antenna. 2. Launch a quick setup.
	 Flashes 8 times	The AIR emitter is defective.	1. Replace the sensor.
	 Flashes 9 times	The internal reference of the radar is wrong.	1. Replace the sensor.
	 On	Problem with the sensor memory.	1. Switch the power supply OFF and ON again. 2. If the LED comes on again, replace the sensor.
RED	 Flashes rapidly after assisted setup	The sensor sees the door During assisted SETUP	1. Move the IR-curtains away from the door. 2. Install the sensor as close to the door as possible. 3. Launch a new assisted setup.  Vacate the detection field!
	 Turns on sporadically	The sensor vibrates	1. Check that the sensor is correctly installed. 2. Check the position of the cable and the cover.
		The sensor sees the door	1. Perform another assisted SETUP and change the angle of the infrared curtains.
		The sensor is disrupted by external conditions	1. Increase the AIR immunity filter: value 3. 2. Select presetting 2 or 3.
GREEN	 Turns on sporadically	The sensor is disrupted by rain and/or tree leaves.	1. Select presetting 2 or 3. 2. Increase the radar immunity filter.
		Ghosting (continual opening and closing of the doors)	1. Change radar field angle.
		The sensor vibrates	1. Check that the sensor is correctly affixed. 2. Check the position of the cable and the cover.
		The sensor sees the door or other moving objects.	1. Remove the objects causing the disruption. 2. Change the size of the radar lobe or change the angle of the radar antenna.
--	LED and LCD are off	--	1. Check wiring.
--	 The door reaction does not correspond to the LED signal	--	1. Check output configuration setting. 2. Check wiring.
--	The LCD or remote control does not react.	The sensor is protected by a password.	Enter the right password. If you forgot the code, cut and restore the power supply to access the sensor without entering a password during 1 minute.

5 INSTALLATION CHECKLIST

- Check that the sensor has been firmly installed to avoid external vibrations.
- Do not cover the sensor.
- There are no moving objects or light sources in the detection field.
- There are no reflective objects (mirrors, stainless steel objects...) in the IR area.
- The operator cover is perfectly fitted.
- The complete installation set: door + sensors + other accessories, are all working correctly.

6 MAINTENANCE

6.1 MAINTENANCE TO BE CARRIED OUT BY THE USER

Maintenance of **manusa** sensors may only be carried out by technically authorised staff. The maintenance tasks reserved for the user are, exclusively, maintaining cleanliness and order around the area of the door.



It is recommended to clean the optical parts whenever necessary and, in any case, at least once a year, with a slightly-damp cloth.

DO NOT use aggressive cleaning products.

Dispose of the sensor appropriately at the end of its useful life.

6.2 MAINTENANCE RESTRICTED TO THE MANUFACTURER

Installation, maintenance, adjustment and repairing tasks on the sensors are exclusively restricted to technical staff authorised by **manusa**.



manusa does not accept responsibility for sensors that have been handled by non-**manusa** personnel.

7 EC DECLARATION OF CONFORMITY



DECLARATION CE OF CONFORMITY

Manufacturer: MANUSA

Address: Av. Vía Augusta, 85-87, 6th Floor
08174 – Sant Cugat del Vallès
Barcelona, Spain
Tel 902 321 400
Fax 902 321 450
www.manusa.com

Product: Hybrid electro-sensitive device for the detection of the presence and motion of individuals, suitable for installation in automatic pedestrian doors located in emergency exits.

Model: **SENSOR HÍBRIDO DDS-A / DDS-B**
Ref: A05037 / A05038

Notified body: TÜV NORD CERT GmbH, Langemarckstrasse 20, D-45141 Essen, NB 0044,
EC-type-examination certificate No. 44 799 12 405836-001.

We herein declare, under our sole responsibility, that the product listed and referenced complies with the following European Directives:

2006/42/CE Machinery Directive
305/2011/CE Construction Products Regulation
2004/108/CE Electromagnetic Compatibility Directive
2006/95/CE Low-voltage Equipment Directive
2011/65/CE RoHS2 Directive

It has also applied the following harmonised standards and technical specifications:

EN 16005
AS 5007
DIN 18650
BS 7036
UNE-EN 12978
UNE-EN ISO 13849 Performance level:
Presence sensor: PL "d" Cat 2
Motion sensor: PL "d" Cat 3

Authorised representative: **MANUSA DOOR SYSTEMS**
Av. Vía Augusta, 85-87, 6th Floor, 08174 – Sant Cugat del Vallès, Barcelona, Spain
Tel: 902 321 400 Fax: 902 321 450
www.manusa.com

The CE marking is included in the product to indicate conformity with the essential requirements of the applicable directives. This declaration of conformity means that the machine installation and commissioning has been made in accordance with the assembly, operation and maintenance instructions from the manufacturer.

Josep Mª Guilera
General Manager

Francesca Martínez
Product Standardisation

Sant Cugat del Vallès, September 2014



Puertas & Portones Automaticos, S.A. de C.V.
¡Nuestra pasión es la Solución!....

» SENSOR DE MOVIMIENTO HÍBRIDO PARA PUERTA AUTOMÁTICA CORREDIZA MARCA MANUSA MOD.DDS-A Y MOD.DDS-B.

manusa 
intelligent access



Puertas & Portones Automaticos, S.A. de C.V.
¡Nuestra pasión es la Solución!....

