

AGRIBOX pro

Installation and user manual

Manual for the Installer and End-user

Dear Customer,

Thank you for purchasing the AGRIBOX pro. This manual contains all the information necessary to allow you to quickly familiarise yourself with the product. Please read this information carefully before using the product for the first time.

This manual is intended for both the installer and the end-user of the AGRIBOX pro. The table of contents allows you to find the information you need in the manual. We recommend that you perform the steps in the order described in this manual.

This is the original manual. Store the manual in a safe place!

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Introduction

Product description

Intended use

The AGRIBOX pro is a light management system intended for automatic control of lighting luminaires. Any other form of use than that described above does not constitute an intended use. Agrilight B.V. cannot be held responsible for any injury or damage caused by the system being used incorrectly, unwisely or contrary to the intended use.

Agrilight B.V. gives the CE mark only to the AGRIBOX pro. The installer of the AGRIBOX pro is personally responsible for the electrical installation in accordance with the provisions of the law. Note that if the AGRIBOX pro becomes part of a larger system, this system as a whole must be qualified for the CE mark. Safety must be assured at all times so that the installer, the end-user and third parties can use the AGRIBOX pro safely.

Registration

The type and serial number plate is attached to the AGRIBOX pro (fig. 1). Always include the type numbers of your luminaire when you contact your local Lely service provider or order spare parts. This information can be found on the production sticker.

- 1. Legal manufacturer
- 2. Production type manufacturer
- 3. Range connected power supply
- 4. Used current
- 5. Maximum used power consumption
- 6. Frequency range power supply
- 7. Ingress protection rate
- 8. Serial number
- 9. Manufacturing date month-Year
- 10. For markings, see manual

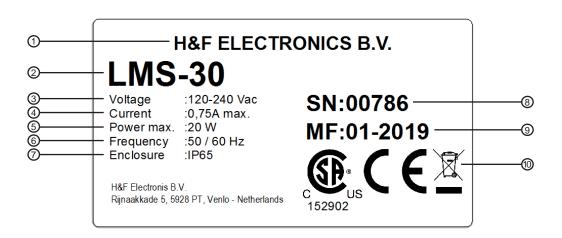


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1 Precautions and Safety Instructions

▲ DANGER	Danger! Keep the product away from water. If the electronic components come into contact with water, this can lead to an electric shock or even electrocution.
△WARNING	 Special know-how is necessary for assembly and installation so that only correspondingly qualified personnel should be entrusted to carry out this work. Assembly and installation must be performed in accordance with the local laws and regulations. Do not use the product if the product or cable is damaged. Disconnect the product from the power supply before starting installation or maintenance. Do not replace parts yourself. Consult a recognised maintenance fitter. The AGRIBOX pro contains electronic components that are sensitive to interference. Install the product out of the range of objects that can cause electrical interference, or if possible remove the objects that can cause electrical interference. Cordon off the working area for unauthorised persons during the installation. Wear the proper protective clothing during installation, such as working

2 Symbols

In this user and installation manual, the following marking conventions have been used to draw attention to certain subjects or actions.

gloves, work shoes, helmet and protective overalls.

▲ DANGER	Danger! The life of the user is directly threatened.
↑ WARNING	Warning! The user can (seriously) injure himself or cause serious damage to the product. A warning indicates the injury to the user or the damage to the product if the user does not follow the procedures carefully.
NOTICE	Note! A note contains supplementary information for the user. A note draws the user's attention to possible problems.

3 Warranty

Agrilight B.V. offers a warranty on production and material faults for a period of two (2) years from the original date of purchase of the product, on condition that the product is used only for its intended purpose. Any damage caused by abnormal use, improper handling, cleaning or negligence is not covered by this warranty. Agrilight B.V. gives no warranty on assembly and installation.

4 Technical Specifications

4.1 General product specifications

Product description				
Name:	AGRIBOX pro			
Year of production:	2015			
Manual version	08-2020			
Technical specifications				
Voltage	100-240 V(AC) (-15% / +10%)			
Frequency	50-60 Hz			
Current	0.47 A @ 115 VAC / 0.28 A @ 230 VAC			
Starting peak	55 A @ 115 VAC / 95 A @ 230 VAC			
Power	20 W			
Power factor	> 0.95			
Mains supply voltage	3-core			
DALI connection	2-core (galvanically separated)			
Analog connection	010 V, max. 100 mA, galvanically separated, 2-pin			
Red control light contact	Floating contact, for 230 VAC, max. 10 A			
Screen signalling	Static connection, 3-core			
Light sensor	010 V (3-core, screened)			
Master/slave connector	Yes			
Light groups	Max. 5			
Timer programs	10			
Number of DALI drivers	Max. 64			
Dimmable	Yes (100% ~ +/- 10%)			
IP degree of protection	IP65			
Operating temperature	0°C ~ + 40°C (Ta)			
Storage temperature	-20 °C ~ + 60 °C (Ta)			
Relative humidity	40% ~ 90% (Ta)			

240 x 194 x 85 mm

1.2 kg

1.4 kg

7 mm

8 - 13 mm

380 x 295 x 160 mm

2 x 1.5 mm2, not supplied

3 x 0.34 mm2, screened

Warranty (years)*

Connecting cable length

Weight incl. packaging

Supply cable diameter

DALI cable diameter

Cable for light sensor

Article weight

Article dimensions (L x W x H)

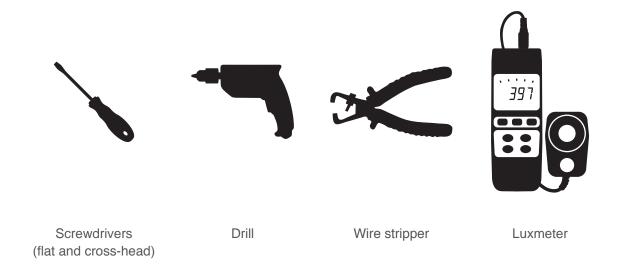
Packaging dimensions (L x W x H)

^{*} See Warranty terms

4.2 Environmental influences

The AGRIBOX pro may only be used indoors in livestock pens, agricultural buildings and sheds. The product must not be used in wet environments or outd oors. Use in other environments can influence the performance of the product or may damage the product.

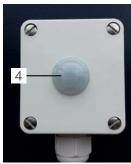
4.3 Tools required for the installer

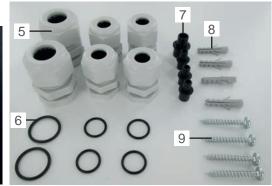


5 Most important parts

5.1 AGRIBOX pro







Parts list

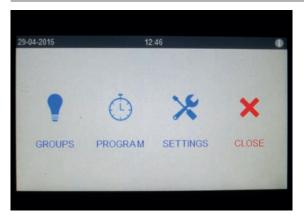
- 1 Touchscreen
- 2 Mounting holes (4x)
- 3 Cover
- 4 Light sensor
- 5 Glands

- 6 Washers
- 7 Sealing plugs for the glands not used
- 8 Plugs
- 9 Screws

5.2 Overview of touchscreen icons and most important screens



Start screen



Overview screen

Touchscreen icon	Description
×	The corresponding function is switched OFF.
~	The corresponding function is switched ON.
Ō	The program is switched ON.
~	Confirm an entered value.
\otimes	Delete the whole value.
X	Backspace; delete the last character.
GROU	The function bar of a group: - OFF: The group is switched off Program: The program belonging to the group is switched on Manual: Manual operation of the group
off	
program	

manual

6 Installation and Setup

- Special know-how is necessary for assembly and installation so that only correspondingly qualified personnel should be entrusted to carry out this work.
 - Assembly and installation must be performed in accordance with the local laws and regulations.
- The AGRIBOX pro contains electronic components that are sensitive to interference. Install the product out of the range of objects that can cause electrical interference, or if possible remove the objects that can cause electrical interference.
- Disconnect the product from the power supply before starting installation.
- Cordon off the working area for unauthorised persons during the installation.
- Wear the proper protective clothing, such as working gloves, work shoes, helmet and protective overalls.

6.1 Draw up a lighting plan

WARNING

Before you start to install the AGRIBOX pro, you should first consider carefully how you want to work in the building. Questions that you should ask yourself:

- Into how many groups do I want to divide the building?
- For how many hours are the luminaires to be switched on per group?
- For which groups do I want the light power to be adapted to the daylight?

Lay down your wishes in a lighting plan. Has the lighting plan been finalised and adopted? Then you are ready to install AGRIBOX pro.

6.2 Preparation for use: Installation and electrical connection

In order to prepare AGRIBOX pro for use, it must first be installed and the electrical connections made. Only connect the luminaires with the AGRIBOX pro Switch. The AGRIBOX pro Switch can disconnect the installation from the mains power supply, e.g. for maintenance work.

Do you want to control more luminaires than the maximum number indicated in the specifications? Every time you exceed the maximum number, add an AGRIBOX pro Slave to an AGRIBOX pro Switch. If these products did not form part of your delivery, you can order them separately.

NOTICE If you use a light sensor, this should preferably be installed on the north side of the building. Set the light sensor dip switches in the 20 kLux position before calibration:

Dipswitch 3 ON, Dipswitches 1,2 and 4 OFF.

6.3 Installing the AGRIBOX pro

6.3.1 Installing the glands

1. Separate the glands by unscrewing the lower part.



2. Place the upper side of the glands, including washers (figure right) in the right positions on the outside of the AGRIBOX pro.



- 3. Screw on the lower part of the glands on the inside of the AGRIBOX pro.
- 4. Press a sealing plug (figure right) into the glands that are not used.



6.3.2 Installing the AGRIBOX pro without brackets

1. Unscrew the plastic screws (4x) in anticlockwise direction using a screwdriver.



2. Remove the cover.



3. Remove the plastic seals from the mounting holes.



- 4. Hold the product against the wall in the desired position and mark the mounting holes.
- 5. Drill holes in the wall and insert plugs (the plugs are not supplied with the product).
- 6. Fasten the product to the wall using screws (the screws are not supplied with the product).
- 7. Place the plastic seals back in the mounting holes



8. Fit the cover again.

NOTICE Deliveries from January 2019 will contain a hinge for the cover.



9. Tighten the plastic screws again in clockwise direction using a screwdriver.

6.3.3 Installing the AGRIBOX pro with brackets

 Place the brackets onto the rear side of the AGRIBOX pro.



2. Fasten the brackets to the AGRIBOX pro using the screws supplied.

Tighten the screws in clockwise direction using a screwdriver.



- 3. Mark the desired positions for the brackets.
- 4. Drill holes and insert the plugs supplied.
- 5. Attach the brackets in the desired position using the screws supplied.

Tighten the screws in clockwise direction using a screwdriver.

6.4 Installing the light sensor (IP65)

 Unscrew the screws in anti-clockwise direction using a screwdriver.



2. Remove the cover.



If you are above equator, the light sensor must be installed outside the barn on the north side. If you are below equator, the light sensor must be installed outside the barn on the south side.

NOTICE Install the sensor so that it has an unobstructed view, it is protected from direct sunlight and it is not near another light source.

- 3. Hold the product in the desired position and mark the two mounting holes.
- 4. Drill holes in the wall and insert plugs (the plugs are not supplied with the product).
- 5. Fasten the product to the wall using screws (the screws are not supplied with the product).
- 6. Loosen the glands in anti-clockwise direction.

- 7. Pull a 3-core screened cable through the gland and connect it to the terminal:
 - 1 UB +
 - 2 Ausg.
 - 3 GND



- 8. Set the dip switches to the 20 kLux position:
 - Dipswitch 1 OFF
 - Dipswitch 2 OFF
 - Dipswitch 3 ON
 - Dipswitch 4 OFF



NOTICE Default setting is 20 kLux. See paragraph 6.6.10.1 for more information.

- 9. Tighten the glands on the master again in clockwise direction.
- 10. Fit the cover again.
- 11. Insert the screws into the product again and tighten in clockwise direction using a screwdriver.



6.5 Electrical connection of the AGRIBOX pro

The following parts have to be connected electrically in the AGRIBOX pro:

- Power supply
- Light sensor
- Control light
- Screen (optional)
- DALI (optional)
- Slave (optional, see section 4.5)

Proceed as follows:

1. Unscrew the plastic screws (4x) in anticlockwise direction using a screwdriver.

NOTICE Deliveries from January 2019 will contain a hinge. In this case, unscrew 2 screws.



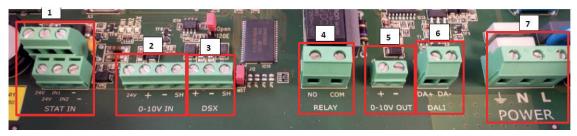
2. Remove the cover.



3. Loosen one empty gland per connection in anti-clockwise direction.



4. Pull the correct cable through the gland and connect it to the correct terminal:



1: Screen connection

Uppermost terminal (connector J5)

- + = floating contact
- -= floating contact
- 1.1: Push button (overrule "v" for main lights)
 - Bottom connector
 - · Connection on the right side between IN2 and -
- 2: Light sensor 0-10V in connection
 - 24V = UB+
 - + = Ausg.
 - -= GND
 - SH = Shield
- 3: Slave/DSX connection
 - See section 4.5.
- 4: Control light connection
 - NO = Normally open contact
 - COM = common
- 5: 0-10V OFF connection (suitable for luminaires with 0-10V control)
 - += 0-10V
 - -= 0V
- 6: DALI connection
 - DA = DALI connection
 - DA = DALI connection
- 7: Power supply
 - N = Neutral
 - L = Phase
 - $\frac{1}{2}$ = Earth
- **5.** Tighten the glands again in clockwise direction.
- **6.** If applicable: Press the sealing plugs supplied into the gland holes that have not been used and tighten them in clockwise direction.
- 7. Fit the cover again.
 - **NOTICE** Deliveries from January 2019 will contain a hinge. In this case, 2 screws must be connected.



Tighten the plastic screws again in clockwise direction using a screwdriver.

6.6 Setting up the AGRIBOX pro

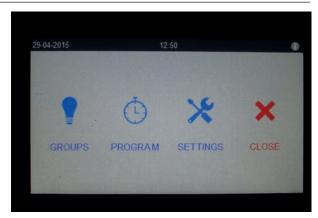
NOTICE The first time the AGRIBOX pro is switched on, the default language is English.

6.6.1 Set the language

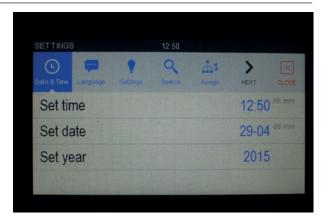
 Press the gear wheel in the top right-hand corner of the Start screen.
 The overview screen is displayed.



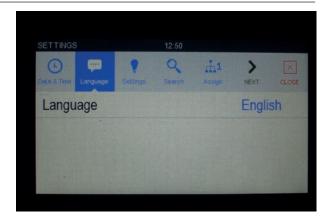
2. Press 'SETTINGS'.



3. Press 'Language'.

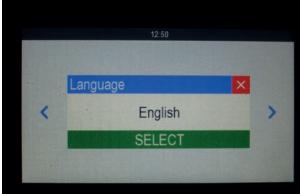


4. Press 'English'.



5. Select the desired language by pressing the '<' or '>' button.

Press 'Select' to confirm.



6. Press 'Close' twice to return to the Start screen.

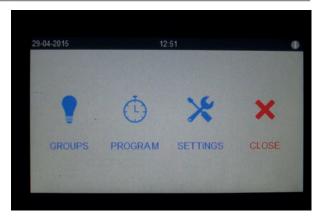
6.6.2 Set date and time

1. Press the gear wheel in the top right-hand corner of the Start screen.

The overview screen is displayed.

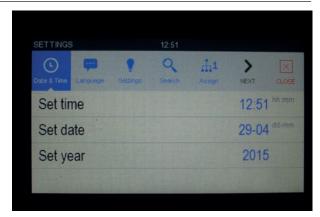


2. Press 'SETTINGS'.

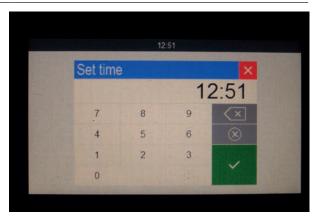


3. Press 'Date & time' if this screen is not yet displayed.

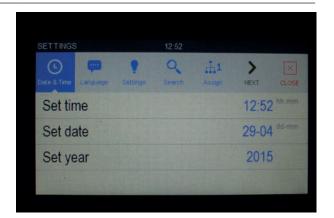
Press on the time behind 'Set time'.



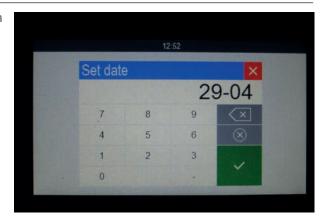
4. Enter the desired time and press the green button to confirm.



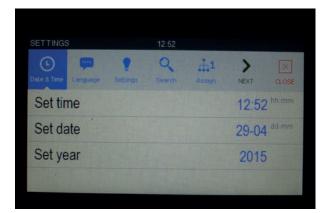
5. Press on the date behind 'Set date'.



6. Enter the desired date and press the green button to confirm.



7. Press on the year behind 'Set year'.



8. Enter the desired year and press the green button to confirm.



9. Press 'Close' twice to return to the Start screen.

6.6.3 Set number of groups

With the AGRIBOX pro it is possible to divide the luminaires into groups. This allows you, for example, to switch off the luminaires in one part of the barn while leaving the luminaires in the rest of the barn switched on

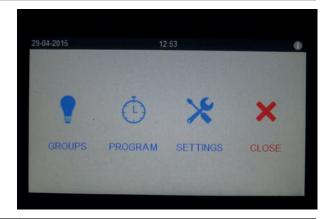
1. Draw up a plan where the luminaires are divided into groups. The lighting plan can be used for this.

NOTICE A maximum of 5 groups can be created in the AGRIBOX pro.

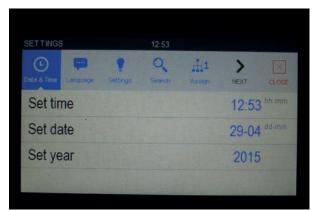
Press the gear wheel in the top right-hand corner of the Start screen.The overview screen is displayed.



3. Press 'SETTINGS'.



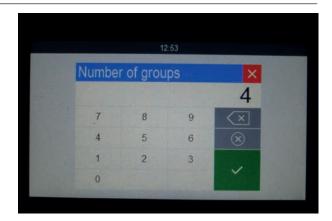
4. Press 'Settings'.



5. Press on the number behind 'Number of groups'.



6. Enter the desired number of groups and press the green button to confirm.



7. Press 'Close' twice to return to the Start screen.

6.6.4 Add luminaires to the AGRIBOX pro

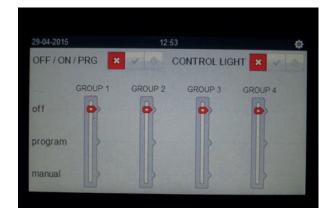
NOTICE All luminaires must be live before this step is carried out.

No luminaires are connected when the AGRIBOX pro is switched on for the first time. A luminaire has one or two drivers, each of which controls a row of LED lamps. Each driver has its own code. The luminaires are added as soon as the AGRIBOX pro reads in the codes.

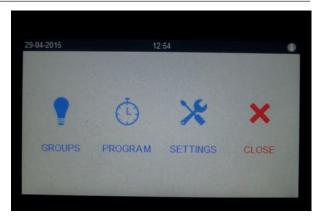
6.6.4.1 Add all luminaires at once

 Press the gear wheel in the top right-hand corner of the Start screen.

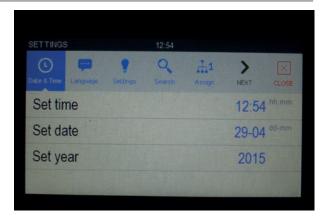
The overview screen is displayed.



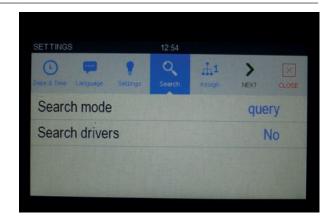
2. Press 'SETTINGS'.



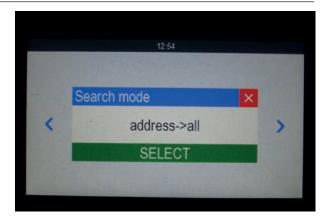
3. Press 'Search'.



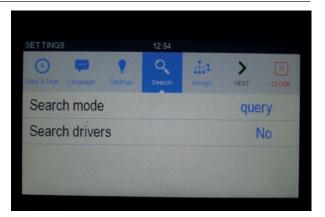
4. Press on the text behind 'Search mode'.



5. Select 'Address -> All' by pressing the '<' or '>' button. Press 'Select' to confirm.

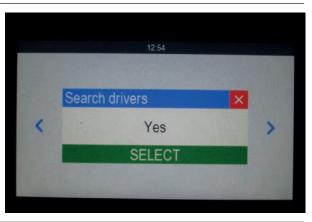


6. Press on the text behind 'Find drivers'.



7. Select 'Yes' by pressing the '<' or '>' button. Press 'Select' to confirm.

The AGRIBOX pro now searches for all the drivers. The message 'Ready' appears when the search has been completed.



8. Press 'Close' twice to return to the Start screen.

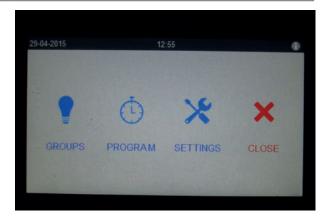
6.6.4.2 Add a single luminaire at a later date

1. Press the gear wheel in the top right-hand corner of the Start screen.

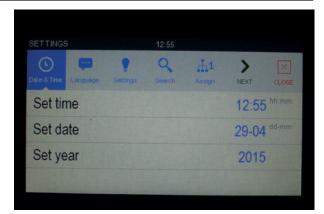
The overview screen is displayed.



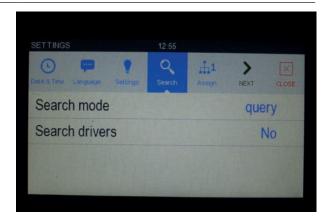
2. Press 'SETTINGS'.



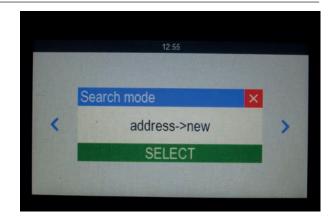
3. Press 'Search'.



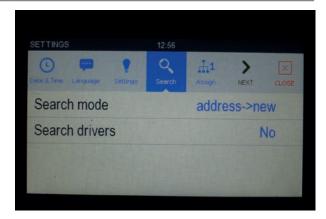
4. Press on the text behind 'Search mode'.



5. Select 'Address -> New' by pressing the '<' or '>' button. Press 'Select' to confirm.



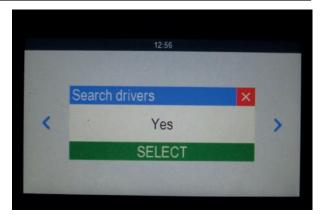
6. Press on the text behind 'Search drivers'.

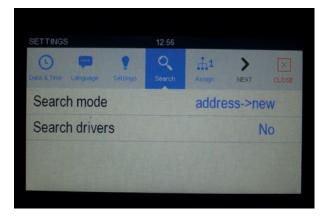


button.
Press 'Select' to confirm.
The AGRIBOX pro now searches for th

7. Select 'Yes' by pressing the '<' or '>'

The AGRIBOX pro now searches for the new drivers. The message 'Ready' appears when the search has been completed.





8. Press 'Close' twice to return to the Start screen.

6.6.5 Divide luminaires into groups

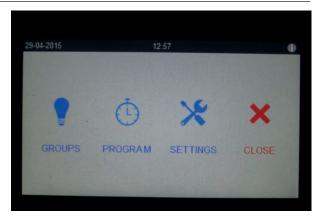
NOTICE All luminaires must be on before this step is carried out.

A luminaire has one or two drivers, each of which controls a row of LED lamps. To divide the luminaires into groups, each driver has to be switched on manually. Then you have to determine visually in which group the LED lamps come on.

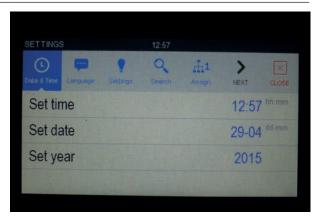
 Press the gear wheel in the top righthand corner of the Start screen.
 The overview screen is displayed.



2. Press 'SETTINGS'.



3. Press 'Assign'.

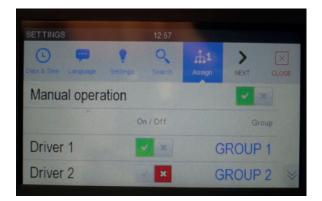


4. Press 'V' (ON) behind 'Driver 1' to switch on the corresponding lamp.

Find the luminaire whose lamp is switched on and determine to which group it belongs.

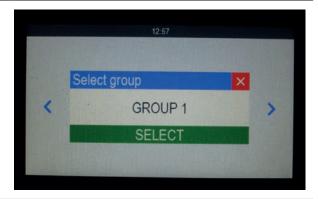


5. Press on the text behind 'Driver 1' (under 'Group').

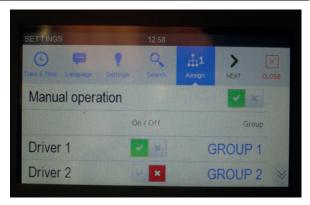


6. Select the desired group by pressing the '<' or '>' button.

Press 'Select' to confirm.



7. Press 'X' (OFF) behind 'Driver 1' to switch off the corresponding lamp.



8. Repeat steps 3 to 7 for all the other driver.

NOTICE These steps can take some time.

. Press 'Close' twice to return to the Start screen.

6.6.6 Set lighting programs

A lighting program allows you to switch the luminaires on and off within a period of 24 hours at the times desired by you. A total of 10 lighting programs can be set. 8 times can be set per lighting program.

Example:

From 6:00 until 21:30 the group of luminaires will illuminate the barn for 100%. When a light sensor is present, the group of luminaires will turn off when the light from outside is enough to illuminate the inside of the barn. The group of luminaires must then switch off. Enter the times as follows:



- Time 1: The group of luminaires switches on at 5:30 a.m.
- Time 2: From 5:30 a.m. until 6:00 a.m. the light power is gradually increased up to 100%.
- Time 3: From 6:00 a.m. until 21:30 p.m. the group of luminaires remains switched on at 100%.
- Time 4: From 21:30 p.m. until 22:00 p.m. the light power is gradually decreased down to 0%.

Times 5 to 8 can be entered if you wish for the group of luminaires to be switched on and off at several times.

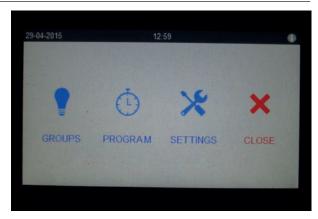
NOTICE The first and last time must always be 0%. If this is not the case, the luminaire will remain switched on.

A lighting program is set as follows:

 Press the gear wheel in the top right-hand corner of the Start screen.
 The overview screen is displayed.

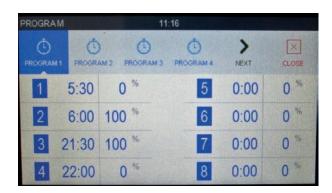


2. Press 'PROGRAM'.



3. Press the desired program.

Press on the time behind '1'.



4. Enter the desired starting time and press the green button to confirm.



5. Press on the percentage (%) behind '1'.



6. Enter the percentage with which the lamps are to be switched on at this time and press the green button to confirm.



7. Repeat steps 4 to 7 for the other required times.

When all the times have been entered, program 1 is set.

- **8.** If necessary, repeat steps 3 to 8 for the other programs.
 - NOTICE A maximum of 10 programs can be set.
- **9.** Press 'Close' twice to return to the Start screen.

6.6.7 Set control light

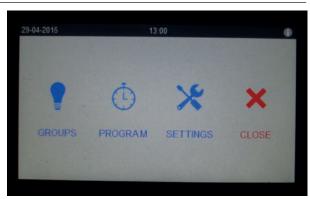
Four control lights program can be set. The control light is less strongly perceived by the animals. The animals are therefore not disturbed in their day and night rhythm.

Set the control light program as follows:

 Press the gear wheel in the top right-hand corner of the Start screen.
 The overview screen is displayed.



2. Press 'PROGRAM'.



3. Press 'NEXT' twice.



4. Press 'CONTROL'.

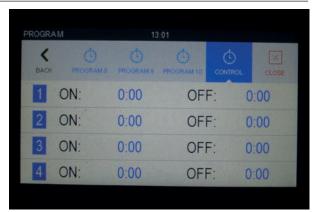
Press on the time behind '1 ON:'.



5. Enter the desired starting time and press the green button to confirm.



6. Press on the time behind '1 OFF:'.



7. Enter the desired end time and press the green button to confirm.



- **8.** If necessary, repeat steps 5 to 7 for the other times.
 - NOTICE A maximum of 4 times can be set for switching the control light on and off.
- 9. Press 'Close' twice to return to the Start screen.

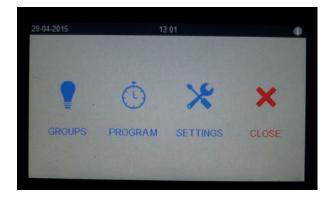
6.6.8 Add a lighting program to a group

1. Press the gear wheel in the top right-hand corner of the Start screen.

The overview screen is displayed.

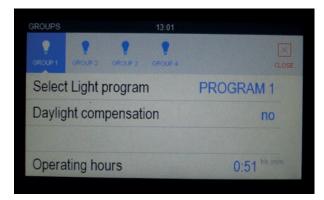


2. Press 'GROUPS'.



3. Select one of the desired groups at the top of the screen.

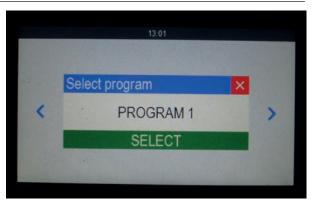
Press on the text behind 'Select Light program'.



4. Select the desired program by pressing the '<' or '>' button.

Press 'Select' to confirm.

The desired program is now added to the selected group.



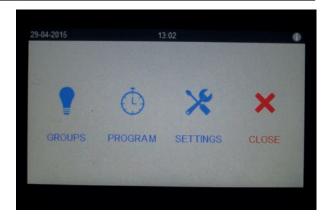
- 5. If necessary, repeat steps 3 to 5 to add programs to other groups.
- **6.** Press 'Close' twice to return to the Start screen.

6.6.9 Remove a luminaire from the AGRIBOX pro system

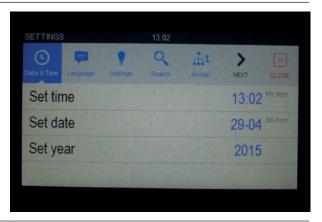
- 1. Remove the luminaire from the livestock pen/shed/agricultural building.
- Press the gear wheel in the top right-hand corner of the Start screen.The overview screen is displayed.



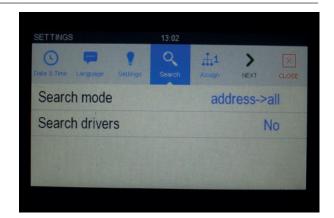
3. Press 'SETTINGS'.



4. Press 'Search'.

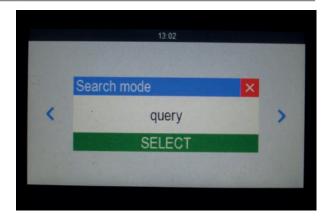


5. Press on the text behind 'Search mode'.

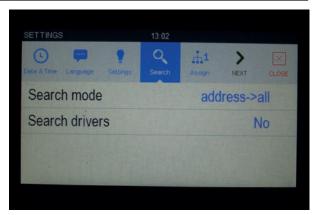


6. Select 'Search' by pressing the '<' or '>' button.

Press 'Select' to confirm.



7. Press on the text behind 'Search drivers'.

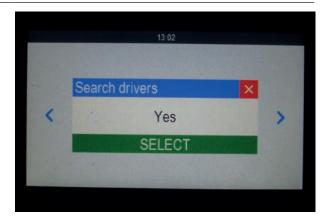


8. Select 'Yes' by pressing the '<' or '>' button.

Press 'Select' to confirm.

The AGRIBOX pro searches for drivers that are still installed in the system. The message 'Ready' appears when the search has been completed.

The number of drivers removed is deducted from the AGRIBOX pro system.



6.6.10 Set light values

NOTICE You need a luxmeter for these operations.

6.6.10.1 Activate daylight compensation

NOTICE We recommend that this operation is not carried out in the middle of the day.

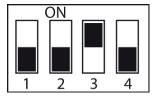
Daylight compensation can be set if the light sensor is installed. A certain light level has to be achieved in the area with the luminaires. Daylight can shine in and thus influence the light level. The light sensor detects the amount of daylight and feeds this information back to the AGRIBOX pro. The AGRIBOX pro then activates the luminaires in order to achieve the desired light level.

No luxmeter available? Take 10% of the value measured by the light sensor (this value can be found under "Calibration light outside") and enter this figure for "Calibration light inside".

Open the cover of the light sensor.

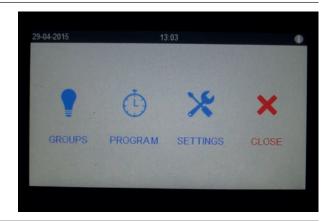


- 2. Set the dip switches to the 20 kLux position. This is the default setting when delivered:
 - Dip switch 1 OFF
 - Dip switch 2 OFF
 - Dip switch 3 ON
 - Dip switch 4 OFF



Now go to the touchscreen:

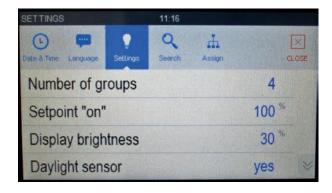
3. Press 'SETTINGS'.



4. Press 'Settings'.



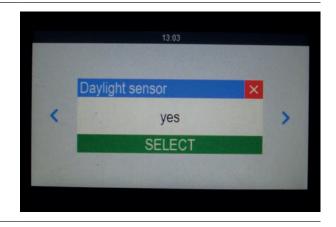
5. Press on the text behind 'Daylight sensor'.



6. Select 'Yes' by pressing the '<' or '>' button.

Press 'Select' to confirm.

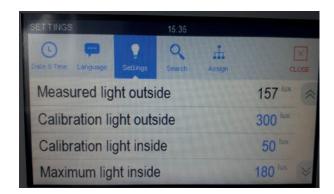
The daylight sensor is switched on. A number of values to be set appear under 'Daylight sensor'.



7. Press the two 'down' arrows until 'Calibration light outside' appears on the screen.



8. Press on the value behind 'Calibration light outside'.



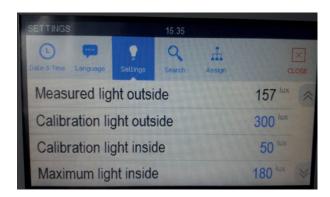
9. Press the green button to confirm.

The light sensor automatically calculates the amount of daylight (in lux). When confirmed, this value is stored in the system.



10. Press on the value behind 'Calibration light inside'.

NOTICE Measure the number of lux at various points in the barn with a luxmeter and take an average.



11. Enter the actual measured value for the calibration light inside and press the green button to confirm.



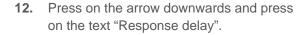
- 11 "Maximum light inside" is meant to be the
- a. average light level what you can reach when all the lights are on for 100%.

The default setting is 200 lux in newly delivered control boxes.

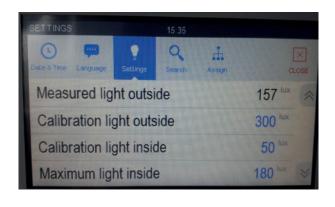
Press on the value next to "Maximum light inside" and change this into the value which is the average (Eav) lux level from the light plan.

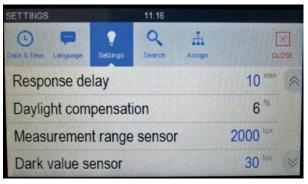
When using a combination of AGRILED® luminaires, then use the highest average (Eav) value from the light plan.

Setting range Maximum light inside is between 50 until 9999 lux. This value is the Eav (lx). from the light plan.



If the daylight in the barn is reduced for a brief time (for example due to a cloud), the AGRIBOX pro can switch on the luminaires after a certain time. This is the response delay.





13. Enter the desired value (in minutes) and press the green button to confirm.

In the figure, the AGRIBOX pro switches on the luminaires as soon as there has been less light in the barn for 10 minutes.



Calibration complete?

14. Calculate and set the light sensor range:
Use the table below to calculate the correct light sensor range. Set the range in the sensor by dip switches and in the Control box by adjusting the setting "Measurement range sensor"

A = Actual measured lux level outside

B = Calibration lux level light outside (see manual chapter 6.6.10.1.7 – 6.6.10.1.9)

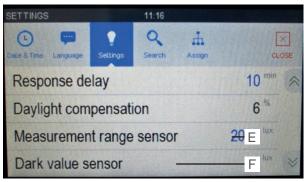
C = Calibration Lux level light inside (see manual chapter 6.6.10.1.1 and 6.6.10.1.10 – 6.6.10.11)

D = Average light level when light is 100% on in the barn (Eav. light plan)

E = Measurement range light sensor, the sensor can't measure above this value

F = Minimum Lux level light sensor. Below shown value, measured light level is 0

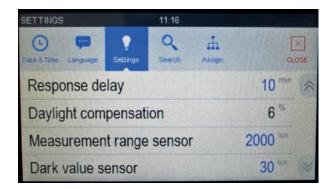




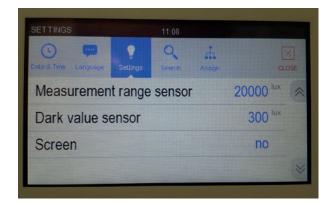
Calculation setting light sensor	Measurement range settings AGRIBOX pro (E)	Dipswitch settings in light sensor	Minimum value (F)
B/C * D = < 2.000 lux	2.000 Lux	2.000 Lux	30 Lux
B/C * D = between 2.000 and 5.000 lux	5.000 Lux	5.000 Lux	75 Lux
B/C * D = between 5.000 and 20.000 Lux	20.000 Lux	20.000 Lux	300 Lux
B/C * D = between 20.000 and 60.000 lux	60.000 Lux	60.000 Lux	900 Lux

Example (300/50) * 180 = 1.080 > In this case the sensor setting is 2.000 Lux and software setting is 2.000 Lux.

- **15.** Close the cover of the light sensor.
- **16.** Press the two 'down' arrows until 'Measurement range sensor' appears on the screen.



17. Press on the value next to 'Measurement range sensor'.



18. Select the calculated range for the light sensor in chapter 6.6.10.1.14 by pressing the '<' or '>' button.

Press 'Select' to confirm. The measuring range of the light sensor is now set to the calculated value.

NOTICE Do NOT adjust the 'Sensor darkness value' manually. The sensor's darkness value is automatically adjusted when the value of the 'Measurement range sensor' is changed.

6.6.10.2 Activate or deactivate daylight compensation per group

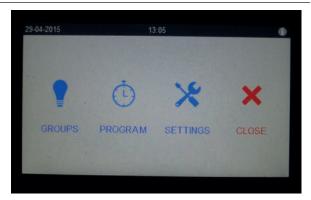
Daylight compensation means that the light is automaticaly regulated by the light sensor

1. Press the gear wheel in the top right-hand corner of the Start screen.

The overview screen is displayed.



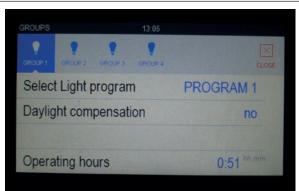
2. Press 'GROUPS'.



3. Press the desired group at the top of the screen.

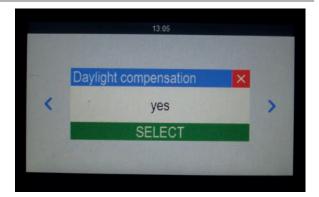
Press on the text behind 'Daylight compensation'.

NOTICE Default setting is "yes".



- **4.** Perform one of the following actions:
 - Select 'Yes' by pressing the '<' or '>' button. Daylight compensation is switched on.
 - Select 'No' by pressing the '<' or '>' button. Daylight compensation is switched off.

Press 'Select' to confirm.



- **5.** If necessary, repeat steps 4 and 4 for the other groups.
- 6. Press 'Close' twice to return to the Start screen.

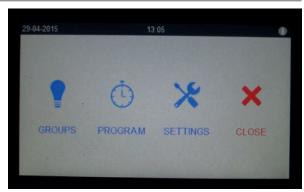
6.6.10.3 Switch on screen compensation

Screen compensation can be set if an automatic screen/curtain is installed. There is a possibility to connect a contact of this screen/curtain to the AGRIBOX pro. When the screen/curtain is closed, there is less light in the barn. With this setting, the lights will be increased when the screen/curtain is closed.

 Press the gear wheel in the top right-hand corner of the Start screen.
 The overview screen is displayed.



2. Press 'SETTINGS'.



3. Press 'Settings'.



4. Press the two 'down' arrows repeatedly until 'Screen' appears on the display.



5. Press on the text behind 'Screen'.



6. Select 'Yes' by pressing the '<' or '>' button.

Press 'Select' to confirm.

Screen compensation is switched on. 'Screen compensation' is displayed.



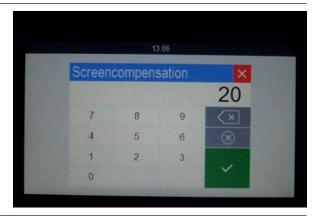
7. Press on the value behind 'Screen compensation'.



8. Enter the percentage of daylight to be blocked by the screen. You can find this out from the supplier of the screen cloth.

In the figure on the right, 20% of the daylight is blocked.

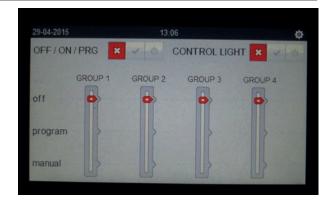
Press the green button to confirm.



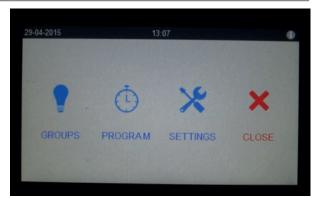
6.6.10.4 Activate or deactivate screen compensation per group

 Press the gear wheel in the top right-hand corner of the Start screen.

The overview screen is displayed.

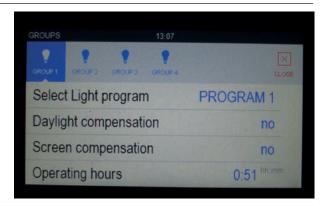


2. Press 'GROUPS'.



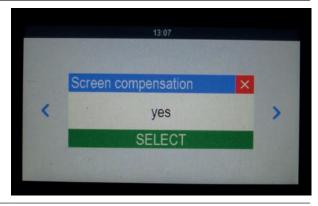
3. Press the desired group at the top of the screen.

Press on the text behind 'Screen compensation'.



- **4.** Perform one of the following actions:
 - Select 'Yes' by pressing the '<' or '>' button. Screen compensation is switched on
 - Select 'No' by pressing the '<' or '>' button. Screen compensation is switched off

Press 'Select' to confirm.



- **5.** If necessary, repeat steps 4 and 4 for the other groups.
- 6. Press 'Close' twice to return to the Start screen.

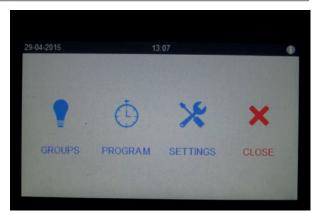
6.6.10.5 Activate of deactivate the daylight sensor

1. Press the gear wheel in the top right-hand corner of the Start screen.

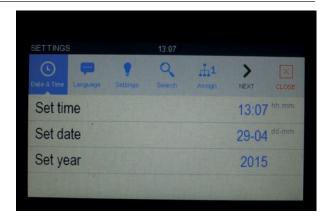
The overview screen is displayed.



2. Press 'SETTINGS'.



3. Press 'Settings'.



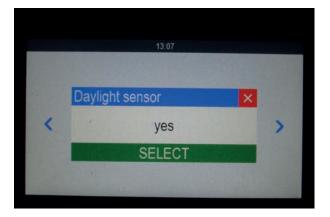
4. Press on the text behind 'Daylight sensor'.



- **5.** Perform one of the following actions:
 - Press the '<' or '>' button and select 'Yes' to activate the daylight sensor.
 - Press the '<' or '>' button and select 'No' to deactivate the daylight sensor.

Press 'Select' to confirm.

NOTICE Default setting is "yes".



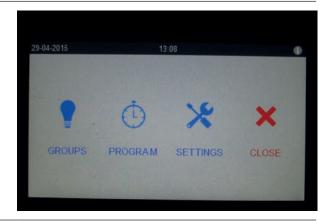
6. Press 'Close' twice to return to the Start screen.

6.6.11 Set brightness of the display

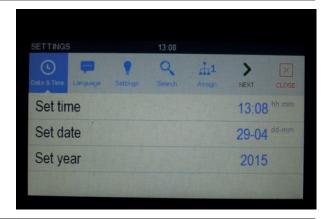
 Press the gear wheel in the top right-hand corner of the Start screen.
 The overview screen is displayed.



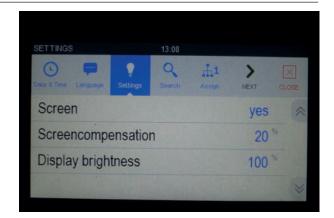
2. Press 'SETTINGS'.



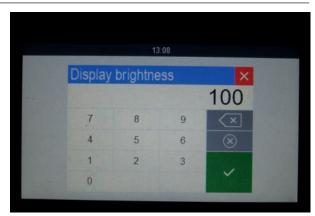
3. Press 'Settings'.



- **4.** 'Display brightness' appears on the screen.
- 5. Press on the percentage (%) behind 'Display brightness'.



Enter the desired percentage brightness of the display and press the green button to confirm.



6.6.12 Factory settings and operating hours

6.6.12.1 Reset the displayed time that a group has been in operation

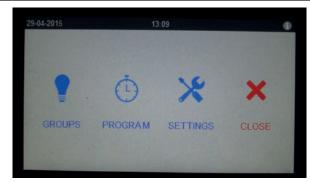
As soon as a program belonging to a group is switched on, the number of hours and minutes that the group is (has been) in operation is displayed. To reset the time, proceed as follows:

 Press the gear wheel in the top right-hand corner of the Start screen.

The overview screen is displayed.



2. Press 'GROUPS'.



3. Press the selected group at the top of the screen.

Press on the time behind 'Operating hours'.



4. Press the circle with the cross and then press the green button to confirm.

The time that a group has been in operation is now reset.

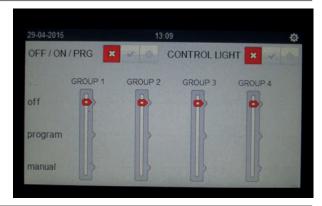


6.6.12.2 Reset the AGRIBOX pro to the factory settings

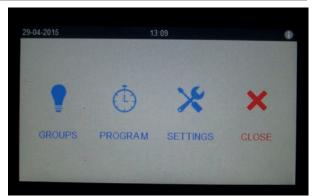
WARNING When the following steps are performed, all settings are deleted and reset to the factory settings.

1. Press the gear wheel in the top right-hand corner of the Start screen.

The overview screen is displayed.

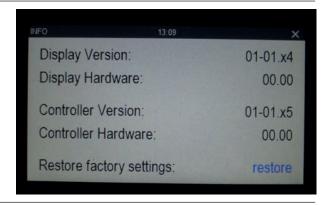


2. Press 'i' in the top right-hand corner of the Overview screen.



3. Press 'Restore' behind 'Restore factory settings'.

A warning is displayed.



4. Press 'YES'.
The AGRIBOX pro is now reset to the factory settings



6.7 Add a second AGRIBOX pro as slave

Two additional AGRIBOX pro's can be added to the AGRIBOX pro in order to be able to control more luminaires. These extra AGRIBOX pro's are an extension of the first AGRIBOX pro. This means that they cannot be set independently and only perform what the first AGRIBOX pro dictates. The first AGRIBOX pro is therefore the master and the other AGRIBOX pro's are slaves.

6.7.1 Electrical connection of the slave

- 1. Determine which AGRIBOX pro is the master and which the slave(s).
- 2. Assemble the second AGRIBOX pro. See section (6.3) for further information.
- 3. Unscrew the plastic screws (4x) on both AGRIBOX pro's in anti-clockwise direction using a screwdriver.



4. Remove the covers.



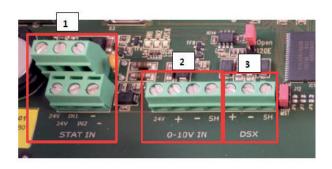
- 5. Loosen an empty gland on the master in anti-clockwise direction.
- 6. Pull a 3-core cable through the gland on the master and connect it to the DSX terminal (3):

DSX +

DSX -

DSX SH

Move jumper JP5 to the 'down' position by placing the red cap over the bottom two pins.



7. Move jumper J12 to the 'down' position by placing the red cap over the bottom two pins. This determines that this AGRIBOX pro is the master.

8. Turn rotary switch S1 of the master (in the top left-hand corner of the circuit board) to

Turn rotary switch S2 of the master (in the top left-hand corner of the circuit board) to 0.This sets the code for the master to 01.

NOTICE This number code must not be 00!



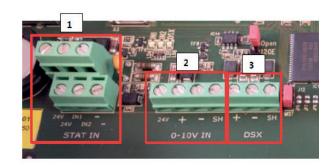
- **9.** Tighten the glands on the master again in clockwise direction.
- **10.** Loosen an empty gland on the slave in anti-clockwise direction.
- **11.** Pull a 3-core cable through the gland on the slave and connect it to the DSX terminal (3):

DSX +

DSX -

DSX SH

NOTICE Connect the same cables in the master to the same connection in the slave.



Move jumper JP5 to the 'down' position.

- 12. Move jumper J12 to the 'up' position to indicate that this AGRIBOX pro is the slave.
- **13.** Turn rotary switch S1 of the first slave (in the top left-hand corner of the circuit board) to 2.

Turn rotary switch S2 of the first slave (in the top left-hand corner of the circuit board) to 0.

This sets the code for the slave to 02.

NOTICE This number code must not be 00!

The code must be entered in the master. See section 6.7.2.



	Jumper JP5	Jumper J12	Rotary switch S2	Rotary switch S1
Master	Down	Down	0	1
Slave 1	Down	Up	0	2
Slave 2	Down	Up	0	3
Slave 3	Down	Up	0	4

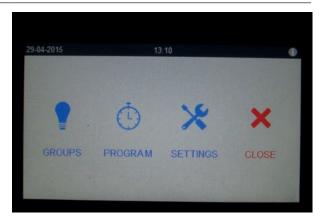
6.7.2 Set the slave

1. Press the gear wheel in the top right-hand corner of the Start screen.

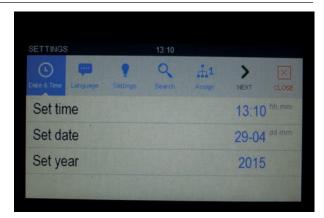
The overview screen is displayed.



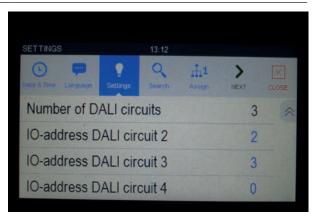
2. Press 'SETTINGS'.



3. Press 'Settings'.

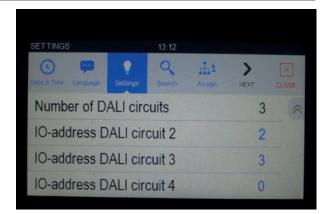


4. Press the two 'down' arrows until 'Number of DALI circuits' appears on the screen.



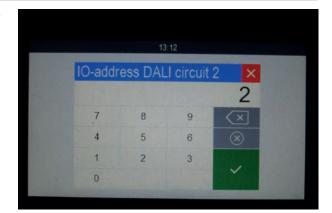
5. Press on the number behind 'IO address DALI circuit 2'.

The AGRIBOX pro recognises the amount of slaves connected



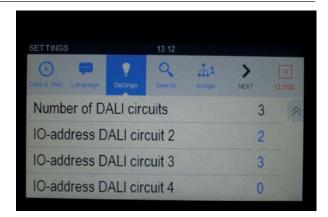
6. Enter the code for the slave and press the green button to confirm.

See section 6.7 for further information on the code for the slave.

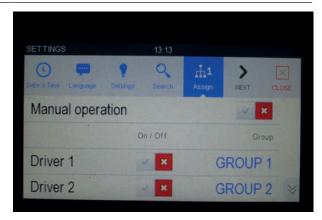


7. 'IO address DALI circuit 3' is displayed; the second slave can be added here. 'Assign 2' is also displayed at the top of the screen.

Press 'Assign 2'.



8. Add the new luminaires to the slave. See section 6.6.4 for further information.



6.8 Prepare the AGRIBOX pro for 0 - 10 V luminaires

The basis of the AGRIBOX pro is a DALI steering signal. In the market there are also 0-10V luminaires available. With this setting, you can connect these kind of luminaires to the AGRIBOX pro.

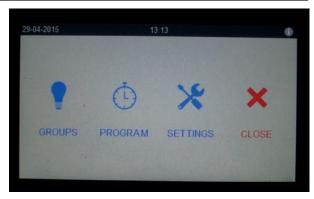
For the electrical connection of 0-10 V luminaires, refer to section 4.3. Proceed as follows to set the 0-10 V luminaires in the AGRIBOX pro: $\frac{1}{2}$

 Press the gear wheel in the top right-hand corner of the Start screen.

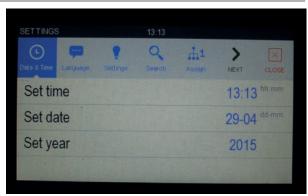
The overview screen is displayed.



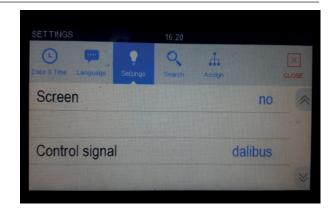
2. Press 'SETTINGS'.



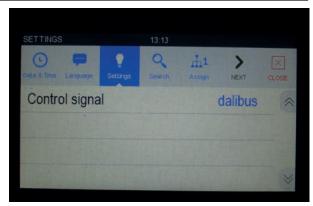
3. Press 'Settings'.



4. Press the two 'down' arrows until 'Dalibus control signal' appears on the screen.



5. Press 'dalibus'.

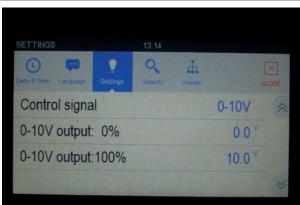


6. Select '0-10V' by pressing the '<' or '>' button.

Press 'Select' to confirm.



7. The AGRIBOX pro is now ready for 0-10 V luminaires.



7 Operation

7.1 Switching a program on or off

Switch on

1. **NOTICE** Ensure that you see the Start screen.

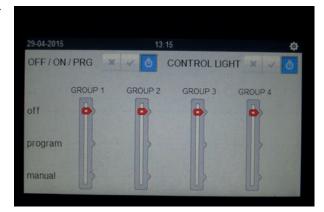
Press the clock icon behind 'ON/OFF' if it has not yet been selected.



2. Press alongside 'Program' in the bar under the desired group(s).

The set program for the selected group is switched on.

A percentage value is displayed, indicating the percentage at which the LED lamps in the luminaire are on.





Switch off

1. **NOTICE** Ensure that you see the Start screen.

Press the clock icon behind 'ON/OFF' if it has not yet been selected.



2. Press alongside 'OFF' in the bar under the desired group(s).

The set program for the selected group is switched off.





7.2 Switching the groups on or off

7.2.1 Switch all groups on or off at once

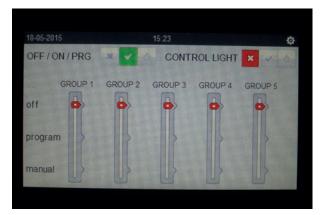
Switch on

NOTICE Ensure that you see the Start screen.

Press the 'V' icon behind 'ON/OFF'.

All the luminaires are switched on at 100%.



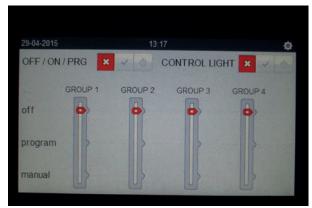


NOTICE Ensure that you see the Start screen.

Press the 'X' icon behind 'ON/OFF'.

All the luminaires are now switched off.





7.2.2 Switch a single group on or off

Switch on

1. **NOTICE** Ensure that you see the Start screen.

Press the clock icon behind 'ON/OFF' if it has not yet been selected.



2. Press alongside 'Manual' in the bar under the desired group(s).

A percentage value is displayed, indicating the percentage at which the LED lamps are on.



3. Press on the percentage value.



4. Select the desired light level by pressing the '<' or '>' button.

Press 'Select' to confirm.

The group is switched on with the selected light level.



Switch off

1. **NOTICE** Ensure that you see the Start screen.

Press the clock icon behind 'ON/OFF' if it has not yet been selected.



2. Press alongside 'OFF' in the bar under the desired group(s).

The group switches off.



7.3 Switching the control light program ON and OFF

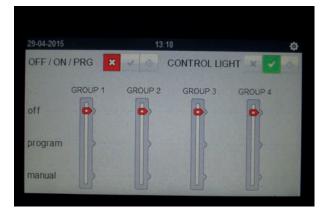
Switch on - method 1

NOTICE Ensure that you see the Start screen.

Press the 'V' icon behind 'CONTROL LIGHT'.

All control lights are switched on.





Switch on - method 2

NOTICE Ensure that you see the Start screen.

Press the clock icon behind 'CONTROL LIGHT' if it has not yet been selected.

The control lights are switched on according to their respective program.

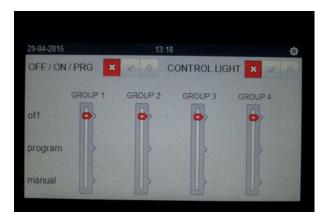


NOTICE Ensure that you see the Start screen.

Press the 'X' icon behind 'CONTROL LIGHT'.

All the control lights are now switched off.





8 Maintenance and Maintenance Plan

- **WARNING** Disconnect the product from the power supply before starting maintenance.
- Clean the AGRIBOX pro with a dry or slightly damp cloth.
- Do not use abrasive cleaning agents.
- Do not use caustic cleaning agents or products with bleach.
- Consult a cleaning specialist if the AGRIBOX pro is heavily soiled.
- Store the product in a dry and dust-free place.

9 Faults and Repairs

WARNING Do not replace parts yourself. This would void the warranty.

NOTICE Please contact your local dealer if the product does not function or the electronics are defective.

10 Disposal

Disposing this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling.

Decommissioning and disassembly of the product can be dangerous and must be done only by qualified recycling organizations. All components must be disposed in compliance with the local rules and regulations.

Contact your local authority for further details

11 WEEE



This symbol [crossed-out wheel bin WEEE] indicates separate collection of electrical waste and electronic equipment in the European countries. We are committed to being a good corporate citizen. As part of that commitment, we strive to maintain an environmentally conscious manufacturing operation

In accordance with the European Union WEEE (Waste Electrical and Electronic Equipment) Directive 2012/19/EC, we would like to notify you that this product might contain regulated materials, which upon disposal, according to the WEEE directive, require special reuse and recycling processing.

Additional local legislation may apply.

NOTICE Only this product itself falls under the WEEE Directive. When disposing of packaging and other related shipping materials we encourage you to recycle these items through the normal channels.

12 CE Declaration of Conformity



Address:

H&F Electronics B.V.

Rijnaakkade 5, 5928 PT, Venlo P.O. Box 3164, 5902 RD, Venlo

Tel:

+ 31 (0)77 323 12 00

Mail:

info@hf-electronics.com

EC Declaration of Conformity

CE-DECLARATION OF CONFORMITY
CE-VERICARING VAN OVEREENSTEMMING
DÉCLARATION DE CONFORMITÉ CE
CE-Konformitàtserklärung
CE-JEK/APA-JLUR 3A C-DOTBETCTBIAE
PROHLASENÍO S-HODE CE
EF-Overensstemmelsserklaring
CE märgis – vastavusdeklaratsioon
CE-DECLARACIÓN DE CONFORMIDAD
CE-VAATIMUSTEMMUKAISUUSVAKUUTUS
CE IZANAO SOKLADNOSTI
EK-MEGFELELÖSÉGI NYILATKOZAT
CE-samræmisyfirlýsing
DICHIARAZIÓNE DI CONFORMITÀ CE
EB ATTIKTIES DEKLARACIJA
DEKLARACIA ZGOONOSCI CE
DECLARAȚIE DE CONFORMITATE CE
FÖRSÄKRAN OM ÖVERENSSTÄMMELSE CE-MÄRKNING
VYHLÁSENIE O ZHODE CE
LIZIAVA O SKLADNOSTI CE
Declaração CE de Conformidade



Declaração CE de Conformidade

The undersigned, representing the following supplier
Ondergetekende, vertegenwoordiger van de volgende leverancier
Le soussigné, représentant le fournisseur sulvant
Der Unterzeichnete, den folgenden Lieferanten vertretend
Долуподписаният, представляващ следния доставчик
Nife podepsany v astoupenf následujíchh oddavatele
Undertegnede, som repræsenterer nedenstående leverandør
Allakirjutanu, kes esindab alijärgnevat tarnijat
El abajo firmante, en representación del siguiente proveedor
Allekirjoittanut, joka edustas seuraavaa tolmittajaa
Dolje potpisani, kao predstavnik dobavaljed
Alulirott, aki a következő beszállítót képviseli
Undirritaður sem er fulltrúi eftirfarandi birgis
La firmataria, che rappresenta il seguente fornitore
Pasirašes asmuo, attovaujantis tollau nurodytam tiekéjui
Apakšá parakstíjusise persona, kas pärstáy plegádátáju
Nižej podpisany, reprezentujqcy następujqcego dostawcę
Subsemnatul, reprezentánd furnizorul urmätor
Undertecknad, som representerar főljande leverantör
Nižšie podpísaný vastúpení nasledujúceho dodávateľa
Podpisani predstavník dobavitelja
abalxo-assinado, em representação do fornecedor

H&F Electronics B.V.

Rijnaakkade 5

5928PT Venlo

Netherlands

Products
Producten
Produits
Produkte
Продукти
Vyrobky
Producto
Producto
Producto
Producto
Vorur
Prodotti
Gaminial
produkty
Producty

Lighting Management system with Dali

Type number Typenummer Numéro de type Nummer eingeben Въведете номер Číslo typu Type nummer Tüübi number

Výrobky Za naslednje izdelke Produtos

Tyyppinumero
Unesite broj
Típusszám
Tegundarnúmer
Digita II numero
Tipo numeris
Velda numuru
Wpisz numer
Introduceți numărul

Typnummer Zadajte číslo Številka tipa Número do tipo LMS-30-000

LMS-31-000

LMS-32-000

LMS-33-000



Address:

H&F Electronics B.V.

Rijnaakkade 5, 5928 PT, Venlo P.O. Box 3164, 5902 RD, Venlo

Tel:

+ 31 (0)77 323 12 00

Mail:

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Hereby certifies that this product is conform with the European standards.

Verklaart hierbij dat dit product voldoet aan de Europese normen

Certifie par la présente que ce produit est conforme aux normes européennes,
bestätigt hiermit, dass dieses Produkt den europäischen Normen entspricht.

Croas ce ygocrosepnea, ve roav nopgynr orrosapa na esponeäcisore crangapru
timto potvrzuje, ät etent výrobek je v souladus e seropskými normani
bekraefter hermed, at dette produkt er i overensstemmelsem med de europæiske standarder
kinnitab käesolevaga, et see toode vastab Euroopa standarditele
Certifica por la presente que este producto satisface las normas europeas
todistas, että tämä tuote on eurooppalaisten standardien mukainen

Ovime se potvrđuje da je ovaj protivod sukladan europskim standardima
Ezennel igazolja, hogy ezek a termékek megfeleinek az európai szabványoknak
Hér með vottað að þessi vara er í samræmi við evrópska staðla
Dichlara che i prodotte é conforme alle norme europee
Patvirtina, kad gaminial aittinka Europos Sajungos standartus
ar so spilecina, ka produkt i atbilst Eiropas standartiem
Ninlejszym ošviladca, že produkt ten jest zgodny z normami europejskimi
Certifica que este produto está em conformidade com as normas europeias
hintygar härmed att denna produkt uprijet kraven i de europeisks standarderna
týmto potvrðzuje, že tento výrobok je v sólade s európskymi normami
Potrjujem, da je ta izdelek skladen z evropskimi standardi
Certific prin prezenta cå acest produs este conform cu standardele europene

LVD 2014/35/EU

EMC 2014/30/EU RoHS 2011/65/EU

References to the relevant harmonised standard used to which conformity is declared
Verwijzingen naar de desbetreffende geharmoniseerde norm waarnaar conformiteitsverklaringen worden gebruikt
Références à la norme harmonisée pertinente utilisée à laquella le zonformité est déclarée
Verweise auf die Jeweils verwendete harmonisierte Norm, für die die Konformität erklärt wird
Nosoassanun на съответния хармонизиран стандарт, използван за деклариране на съответететето
Обказу на pfisiusnou harmonizovanou normu, pro kterou je shoda deklarována
Henvisninger til den relevante harmoniserede standard, som anvendes til hvilken overensstemmelse er angivet
lited vastavale ühtlustatud standardile, millele vastavus on deklareeritud
Referencias a la norma armonizada correspondiente utilizada para la cual se declara la conformidad.
Vilitaukset sovellettuun yhdenmukaistettuun standardilin, jolle vastimustenmukaisuus on ilmoitettu
Upudvanje na relevantne uskladeen onren na koje se prijavilyje sukladnost
Hivatkozások a vonatkozó harmonizát szabványra, amelyre a megfeleiőséget bejelentik
Tilvísanir í víðeigandi samhæfða staðalinn sem notaður er til að samræmingu sé lýst
Riferimenti alla norma armonizzata pertinente con cul viene dichlarata la tonformità
Nuorodos j tajkomn darnuji standarta, kurlam deklaruojama attiktis
Atsauces uz attlecígo saskapoto standartu, kam deklareta atbilstíba
Odnieslenia do odpowledniej normy zharmonizowanej, w odniesieniu do której deklarowana jest zgodność
Referências à norma harmonizata relevante à qual a conformidade é declarada
Trimiteri la standardul armonitat relevant pentru care se declarã conformitate
Hänvisningar till den relevanta harmonizerade standarden som används för vilken överensstämmelse deklareras
Odkazy na príslušnú harmonizovanú normu, na ktoré sa deklaruje zhoda

EN-IEC 61010-1:2010 EN-IEC 61347-1:2015 EN-IEC 61347-2-13:2014/A1:2017

EN 55015:2013/A1:2015 IEC 61000-3-2:2018 IEC 61000-3-3:2013/A1:2017

EN-IEC 61547:2009 EN 50581:2012

Signature & date Handtekening & datur Signature & date Unterschrift & Datum Подпис & Дата Podpis & datum Underskrift & dato Alikiri & Kuupäev Firma & Fecha Allekirjoitus & Pvm Potpis & Datum Aláírás & Dátum Undirritun & dagsetning Firma & data Parašas & data Paraksts & datums Podpis & data Semnätura & data Underskrift & Datum Podpis & datum Podpis & datum

H.J.M. Hovens **Managing Director** H&F Electronics B.V.

17-01-2019



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