DLC4000 & DLC8000

USER'S GUIDE

Control Systems 4+2 or 8+2 outputs - 3 inputs

DLC4000
REF.P0050F0012

DLC8000
REF.P0050F0013

Due to technological advances, the manufacturer reserves the right to modify the characteristics of this product without notice

1. DLC4000 & DLC8000 — Safety and precautions

The safety of future users of this product depends on your installation. Therefore, it is critical that you read, understand, and follow all instructions contained in this installation guide.

Some instructions and precautions that must be applied are listed below :

- To install this equipment correctly, it is essential to have the understanding and the technical skills for the installation of automobile electronics.
- Never install any devices or accessories inside the airbag deployment area. Such installation might reduce the effectiveness of the airbag or prevent it from being deployed. It can also potentially damage or dislodge the device, causing serious or fatal injuries.
- If you need to drill a hole in the dashboard, make sure that both sides are completely free to avoid damaging the vehicle.
- Always install the console or the power module in a ventilated area, and never close to a heat source.
- It is imperative to dimension correctly all wires installed and connected to the positive battery terminal (see the chart on page 2) and protected by a proper fuse placed as close as possible to the battery.
- To ensure a correct operation of the device installed, it is necessary to make a perfect connection to the negative terminal. The negative output of the device must be connected to the negative terminal of the battery as directly as possible.
- The same applies to any elements controlled by the installed device.
- Make sure that none of the vehicle's original controls are affected by the installed device.
- Place this installation guide in a safe place and refer to it when necessary and for each installation.
- Failure to follow safety guidelines and instructions may cause material damages, injuries, or death to you and to others.

2. DLC4000 & DLC8000 — Dimensioning of electric wires

It is essential and mandatory to dimension electrical wires correctly according to the currents used and the length of the wires. Failure to dimension correctly may cause fire inside the vehicle.

The DLC4000 & DLC8000 are equipped with protected static output.

One fuse of max 20A has to be mounted before the DLC4000/DLC8000 as close as possible to the battery.

ABACUS FOR THE DIMENSIONING OF ELECTRIC WIRES

MAXIMUM AUTHORIZED CURRENT

mm²	AWG	5A		10A		15A		20A		25A		30A		35A		40A		45A	
0.34	22	1.8m	6 Feet	0.9m	3 Feet	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0.5	20	2.9m	9.5 Feet	1.5m	5 Feet	0.9m	3 Feet	X	X	X	X	X	X	X	X	X	X	X	X
0.75	18	4.5m	15 Feet	2.2m	7.5 Feet	1.5m	5 Feet	1.2m	4 Feet	0.9m	3 Feet	X	X	X	X	X	X	X	X
1.5	16	7.5m	24.5 Feet	3.5m	12 Feet	2.4m	8 Feet	1.8m	6 Feet	1.5m	5 Feet	1.2m	4 Feet	1m	3.5 Feet	0.9m	3 Feet	X	X
2.5	14	12m	39 Feet	6m	19.5 Feet	4m	13 Feet	2.8m	9.5 Feet	2.5m	8 Feet	2m	6.5 Feet	1.6m	5.5 Feet	1.5m	5 Feet	1.3m	4.5 Feet
4	12	20m	62 Feet	9.5m	31 Feet	6m	20.5 Feet	4.7m	15.5 Feet	3.8m	12.5 Feet	3.2m	10.5 Feet	2.7m	9 Feet	2.3m	7.5 Feet	2.1m	7 Feet
6	10	30m	98 Feet	15m	49 Feet	10m	32.5 Feet	7.5m	24.5 Feet	6m	19.5 Feet	5m	16.5 Feet	4.2m	14 Feet	3.8m	12.5 Feet	3.3m	11 Feet
10	8	48m	156 Feet	24m	78 Feet	16m	52 Feet	11.8m	39 Feet	9.4m	31 Feet	8m	26 Feet	6.8m	22.5 Feet	5.9m	19.5 Feet	5.3m	17.5 Feet
16	6	75m	248 Feet	37m	124 Feet	25m	82.5 Feet	18.8m	62 Feet	15m	49.5 Feet	12.6m	41.5 Feet	10m	35.5 Feet	9.4m	31 Feet	8.3m	27.5 Feet
25	4	120m	395 Feet	60m	197 Feet	40m	131 Feet	30m	98.5 Feet	24m	79 Feet	20m	66 Feet	17m	56.5 Feet	15m	49.5 Feet	13.4m	44 Feet
35	2	190m	629 Feet	95m	314 Feet	63m	209 Feet	47m	157 Feet	38m	125 Feet	31m	104 Feet	27m	89.5 Feet	2.9m	78.5 Feet	21m	69.5 Feet

MAXIMUM AUTHORIZED CURRENT

mm²	AWG	50A		55A		60A		65A		70A		75A		80A		85A		90A	
0.34	22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0.5	20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0.75	18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.5	16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2.5	14	1.2m	4 Feet	1m	3.5 Feet	0.9m	3 Feet	0.9m	3 Feet	0.9m	3 Feet	X	X	X	X	X	X	X	X
4	12	1.8m	6 Feet	1.7m	5.5 Feet	1.5m	5 Feet	1.5m	5 Feet	1.3m	4.5 Feet	1.2m	4 Feet	1.2m	4 Feet	1m	3.5 Feet	1m	3.5 Feet
6	10	3.0m	10 Feet	2.7m	9 Feet	2.4m	8 Feet	2.2m	7.5 Feet	2.1m	7 Feet	2m	6.5 Feet	1.8m	6 Feet	1.8m	6 Feet	1.6m	5.5 Feet
10	8	4.7m	15.5 Feet	4.2m	14 Feet	4m	13 Feet	3.6m	12 Feet	3.3m	11 Feet	3.2m	10.5 Feet	3m	10 Feet	2.7m	9 Feet	2.5m	8.5 Feet
16	6	7.6m	25 Feet	6.8m	22.5 Feet	6.2m	20.5 Feet	5.8m	19 Feet	5.3m	17.5 Feet	5m	16.5 Feet	4.7m	15.5 Feet	4.4m	14.5 Feet	4.2m	14 Feet
25	4	12m	39.5 Feet	11m	36 Feet	10m	33 Feet	9.2m	30.5 Feet	8.5m	28 Feet	8m	26.5 Feet	7.4m	24.5 Feet	7m	23 Feet	6.7m	22 Feet
35	2	19.2m	63 Feet	17.3m	57 Feet	16m	52.5 Feet	14.7m	48.5 Feet	13.7m	45 Feet	12.8m	42 Feet	11.8m	39 Feet	11.2m	37 Feet	10.6m	35 Feet

X = Insufficient

3. DLC4000 & DLC8000 — Product Description

3.1. Description

DLC4000 is designed to control 4 positive outputs and DLC8000 for 8 positive outputs. Both systems also have : - 2 negative outputs;

- 1 "+ ignition contact" positive input;
- 1 negative input;
- 1 positive input.

A lot of functions are available and configurable through the console.
From the functions available :
- interlock function blue light/siren;
- interlock function blue light/grill light;
- marking functions linked or not to handbrake;
- siren status and/or blue light status management;
- 2 different types of directionnal lights management;
- push button functions;
- permanent output;
- several modes of automatic standby.

 This list is not exhaustive, the last part of this user guide details all the available functions and how to configure them.

3.2. View of the assembly

DLC4000 CONSOLE   **DLC8000 CONSOLE**   **DLC4000 OR DLC8000 MODULE**

OR

BUS CABLE
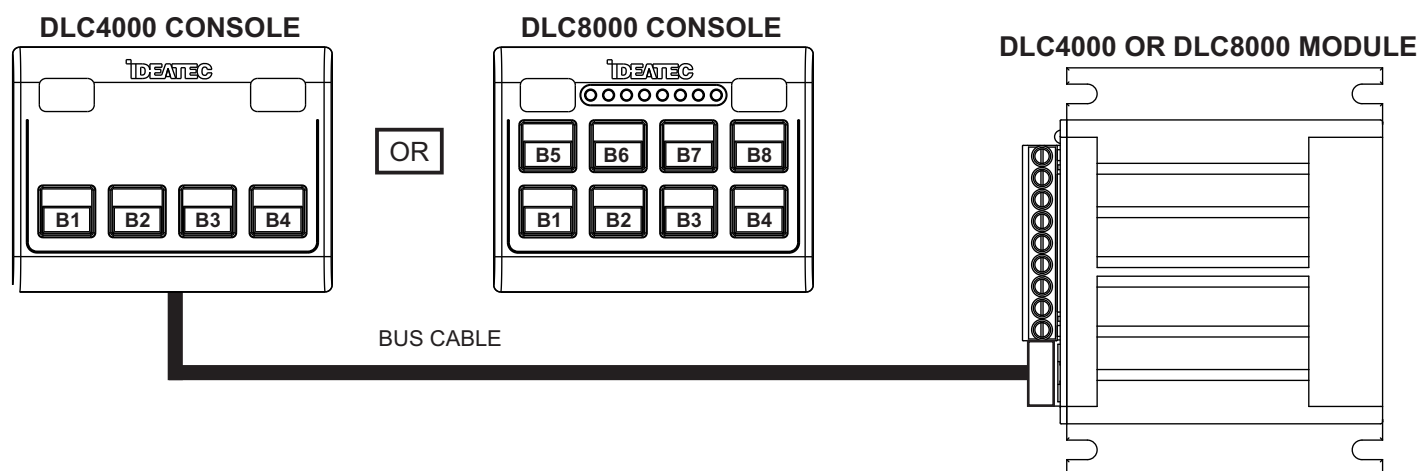
4. DLC4000 & DLC8000 — Elements identification

4.1. Console

Item	P/N	DESCRIPTION	Qty
1	P0040F0008	DLC4000 Console	1
or	P0040F0010/4	DLC8000 Console	1
2	P0039F0003	Foot Mounting Kit	1
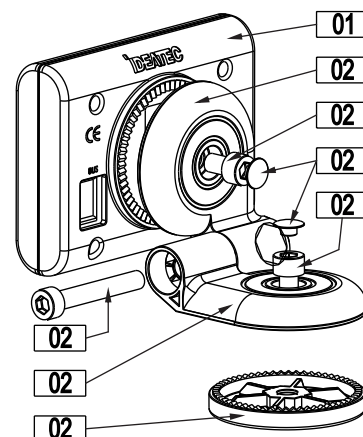
4. DLC4000 & DLC8000 Elements identification (continued)

4.2. Bus cable 2xRJ45 - Console < > Module

Standard length = 5 meters - P/N : P0020F0027/FTP

L= 5m.
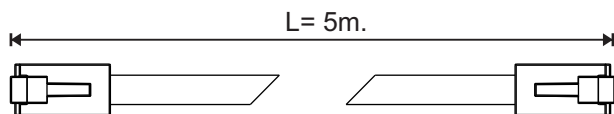
Option sur demande :
Length = 0.5 meter - P/N : P0020F0041
Length = 1 meter - P/N : P0020F0042
Length = 6 meters - P/N : P0020F0043
Length = 10 meters - P/N : P0020F0029/FTP

⚠ **In order to ensure good communication between console and central unit, the lenght of the BUS cable cannot exceed 10m.** ⚠

⚠ **In order to ensure perfect operation, only BUS cables assembled and supplied by the manufacturer are accepted. Otherwise, unless authorised in writing, the manufacturer will not accept any warranty or liability on the equipment installed.** ⚠

4.3. Power module

Item	P/N	DESCRIPTION	Qty
1	P0040F0018	Power Module DLC4000	1
or	P0040F0019	Power Module DLC8000	1
2	P0020F0027/FTP	Shielded cable 2xRJ45 L=5m.	1
3	A4600B0309	Connector 9 screw terminals	1
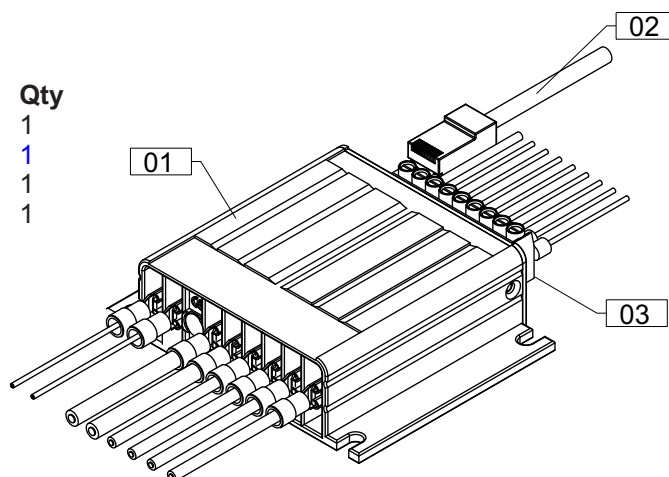
4.4. Pictogram collection

Item	P/N	DESCRIPTION	Qty
1	A6800B0071	88 pictogram set	1

IDEATEC S.A. - Z.I. de Noville-les-Bois - rue Léopold Génicot 19A - 5380 Fernelmont, Belgium - Tel: +32(0)81 42 00 10 - Fax: +32(0)81 57 91 70 - E-mail: info@ideatec.be
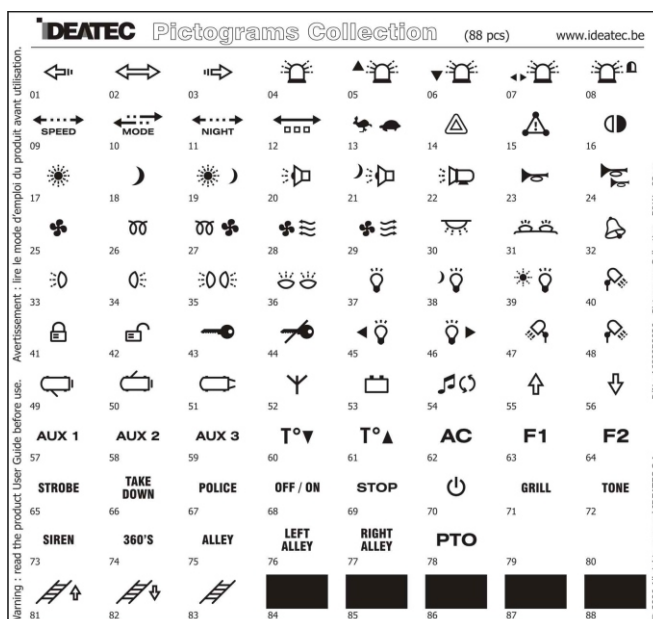
5. *DLC4000* & *DLC8000*   Console and module installation

⚠ **The safety of future users of this product depends on your installation. Therefore, it is critical that you read, understand, and follow all instructions contained in this installation guide.** ⚠

5.1. Console
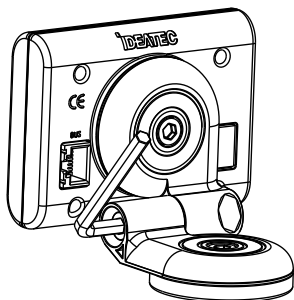
➲ Preassemble the console without blocking the 2 hexagonal head screws.

➲ Choose the best place to install the console on the dashboard.

➲ Locate and note the 6 fixation holes at the base of the foot.

➲ Fix the base and position of the console perfectly.

➲ Block the 2 hexagonal head screws.

➲ Attach the cover to the back of the foot with the screw provided.

➲ Place the small black cap on the head of the screw on the back.

ⓘ Drilling template on page 7   ⓘ Tool reference: hex head key n°6
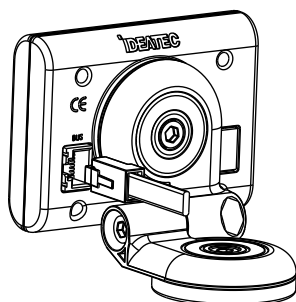
➲If the angle chosen to install the console allows it, the RJ-45 cable can be connected. If necessary, loosen the screw to access the back of the console more easily.
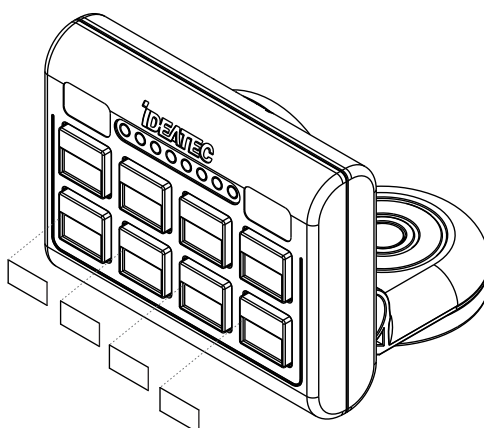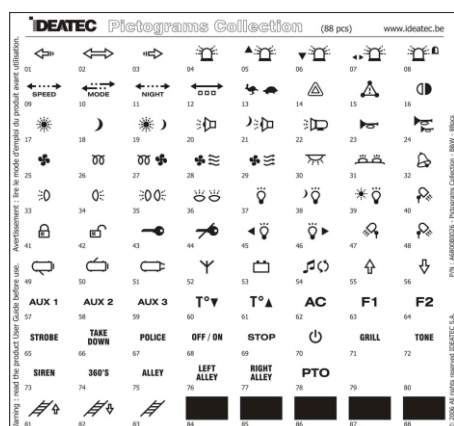
➲You can configure the keys on the keypad using the set of 88 pictograms provided.

➲To ensure good adherence of the pictogram to the cavity on each key, avoid touching the adhesive part of the pictograms and the key cavities with your fingers.

⚠ **Use only screws, nuts, and washers provided by the manufacturers.**
Using other longer screws in the back of the console may seriously damage its internal parts.
The manufacturer cannot assure any warranties or accept liability if other fixing elements or screw, nuts, and washers are used to install the console. ⚠

5. DLC4000 & DLC8000 Console and module installation (continued)

⚠ **The safety of future users of this product depends on your installation.
Therefore, it is critical that you read, understand, and follow all instructions contained in this installation guide.** ⚠

5.2. Power module

➲Choose a flat surface and use 4 appropriate fixation screws.

➲Always install the console or the power module in a ventilated area, and never close to a heat source.

➲Take into account the size of the different connectors that will be added to the assembly.

⚠

The power module must be protected against humidity.

Do not attempt to enlarge the mounting holes.
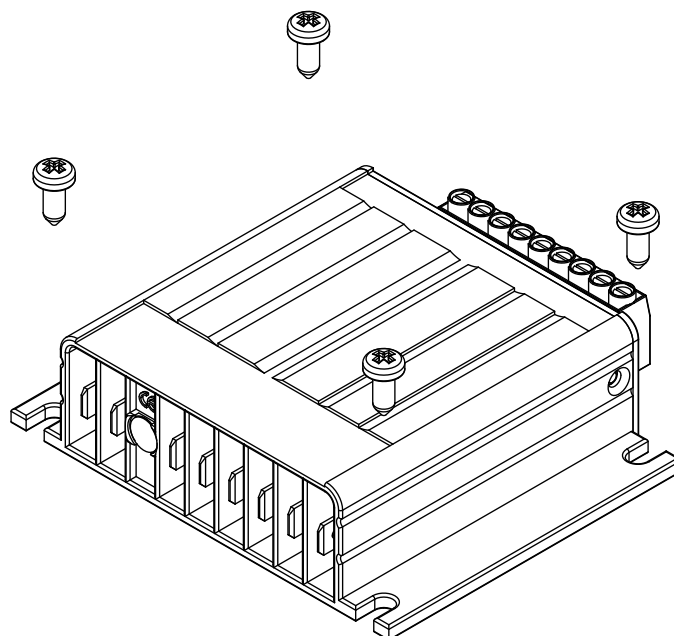
ⓘ Drilling template on page 8

---

6. *DLC4000* & *DLC8000* Drilling Templates

6.1. Controlling the Template Scale after Printing

⚠ **ATTENTION**
THE DRILLING TEMPLATES WERE CREATED BY THE EDITOR USING A 1:1 SCALE. FOR THIS REASON, SOME PRINTERS OR PRINTING SOFTWARE MAY CAUSE DISTORTIONS ON PRINTING. YOU SHOULD VERIFY THE SCALE BEFORE USING THE TEMPLATES BELOW. ⚠

The rulers below allow you to control the scale on the two axes :

**CHECK THE SCALE (X & Y)
AFTER PRINTING**
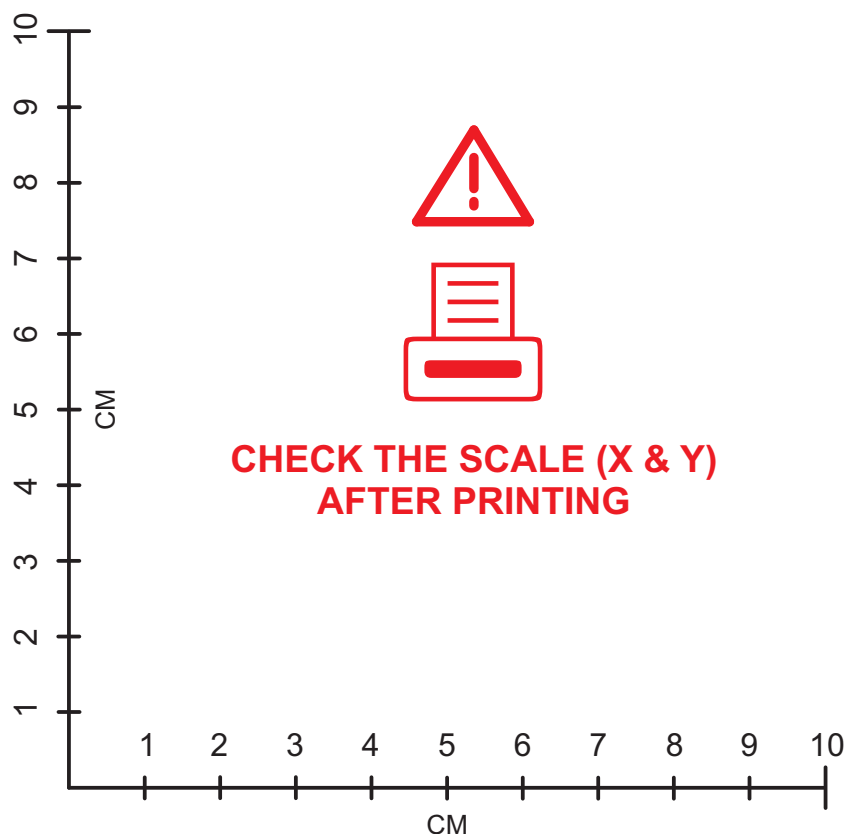
6.2. Console Mounting Foot
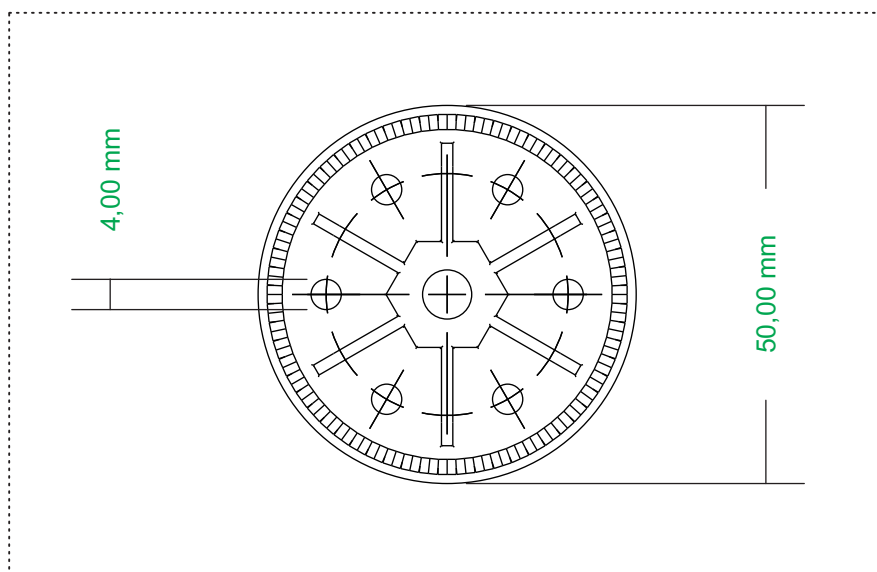
6. *DLC4000* & *DLC8000*   Drilling Templates (continued)

6.3. DLC4000/DLC8000 power module

82 mm

67 mm

72,8 mm

94 mm
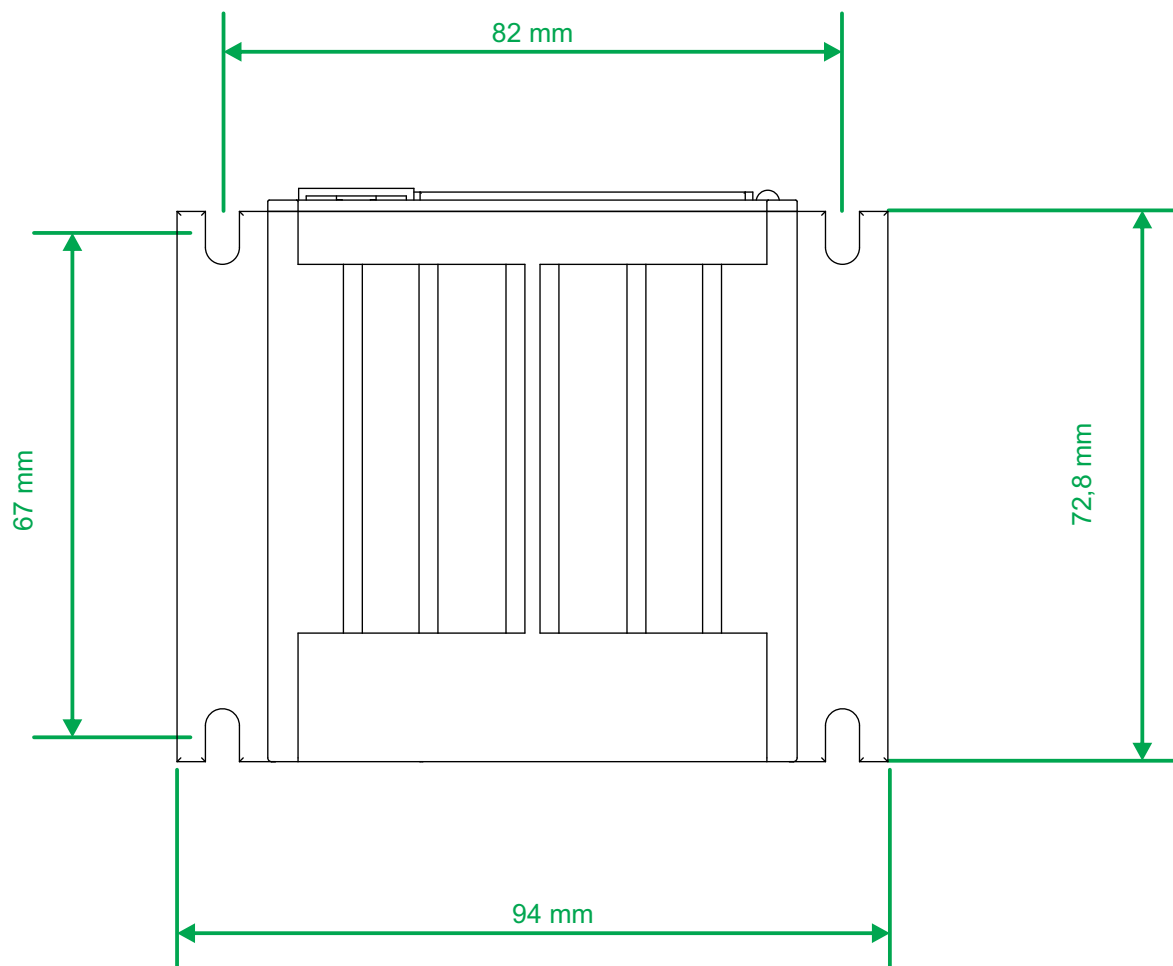
**CHECK THE SCALE (X & Y)
AFTER PRINTING**

7. *DLC4000* & *DLC8000*   Technical characteristics

7.1. Console

Operating Voltage	: +5VDC ±5% supplied by the module
Operating Temperature	: de -25°C à +60°C
Connection Type	: RJ45 (non-crossed)
Weight	: 115 gr.
Dimensions (L x W x D)	: 95 x 70 x 35 mm (without the foot)
	:

Automatic Backlighting
Multidirectional Foot Mounting
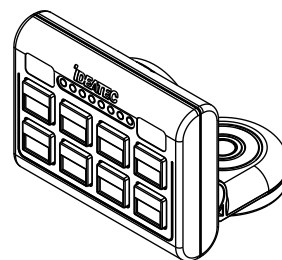
7.2. Power module

Operating Voltage	: de +10 à +28.5VDC
Operating Temperature	: de -25°C à +60°C
Number of positive outputs	: 4 for DLC4000 and 8 for DLC8000
Number of negative outputs	: 2
Maximum current. /positive output	:10A
Maxi. current /negative output	: 2A
Maxi. current general	: 20A
Type of output	: Static
Power module weight	: 80 gr.
Dimensions over all	: 94 x 73 x 26 mm
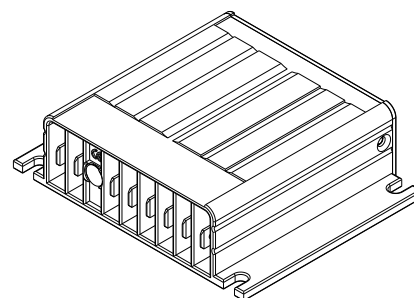
8. *DLC4000* & *DLC8000*   Wiring diagram

DLC4000/DLC8000 Module

DLC4000/DLC8000 Console

INPUTS

Positive input 1 «+ ignition» — 01
Negative input 2 — 02

Only DLC8000

POWER SUPPLY (6 mm² max)
+10 to 28,5VDC
Obligatory Fuse (max 20A) — 03
— 04

RJ45 - L=5m.

Load 1 — 05 — B1
Load 2 — 06 — B2
Load 3 — 07 — B3
Load 4 — 08 — B4

J2.9 — Positive input 3
B8 — J2.8 — Load 8'
J2.7 — Load 8
B7 — J2.6 — Load 7'
J2.5 — Load 7
J2.4
B6 — J2.3 — Load 6
J2.2
B5 — J2.1 — Load 5

+V
+V
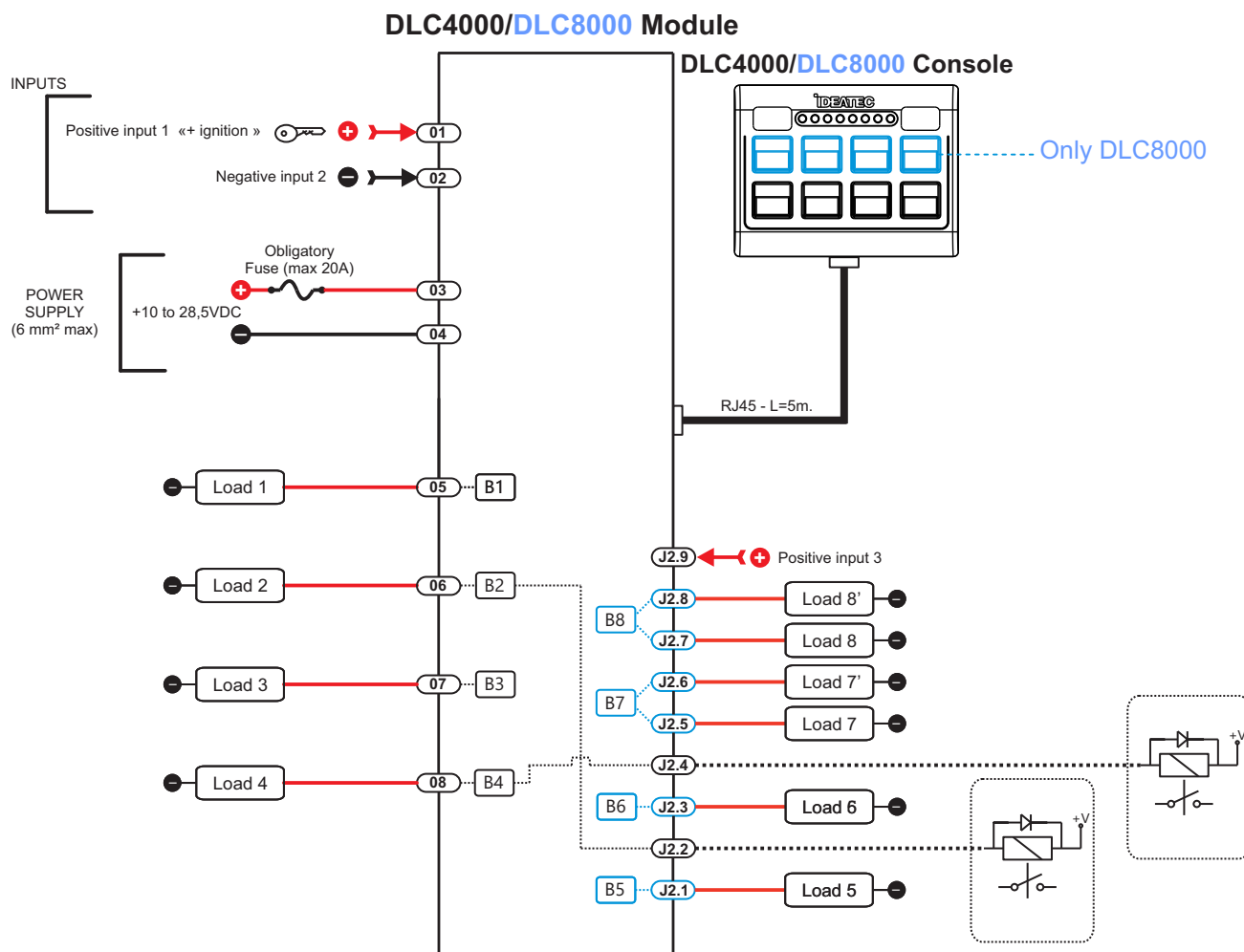
9. *DLC4000* & *DLC8000*   Connecting

9.1. Connectors and Wire Terminals Supplied

To ensure correct and reliable connections, it is imperative to crimp an adequate terminal on each wire.

Crimp a wire end on each connexion (originally supplied)

9.2. DLC4000 Power Module Wiring

« Ignition » positive input 1
Negative input 2

Power supply 10... 28 VDC

OUTPUT 1
OUTPUT 2
OUTPUT 3
OUTPUT 4

Obligatory Fuse (max 20A)

To DLC4000 console

Positive input 3

IN 3
N.C.
N.C.
N.C.
N.C.
N.C.
N.C.

NEGATIVE OUTPUT 2 (key B4)
NEGATIVE OUTPUT 1 (key B2)

DLC4000 Power Module

9.3. DLC8000 Power Module Wiring

« Ignition » positive input 1
Negative input 2

POWER SUPPLY 10... 28 VDC

OUTPUT 1
OUTPUT 2
OUTPUT 3
OUTPUT 4

Obligatory Fuse (max 20A)

To DLC8000 console

Positive input 3

OUTPUT 8'
OUTPUT 8
OUTPUT 7'
OUTPUT 7
NEGATIVE OUTPUT 2 (key B4)
OUTPUT 6
NEGATIVE OUTPUT 1 (key B2)
OUTPUT 5

DLC8000 Power Module

Each positive ouput can deliver up to 10A. The positive outputs 1, 2, 3 and 4 with the terminal type Faston is better for high current near 10A.
The total current is maximum 20A and input must be protected by fuse.
The negative outputs are limited to 2A.

10. *DLC4000* & *DLC8000*   Configuration by default

The 8 keys on the console have predefined functions. However, it is possible to assign automatic functions to each of them. The characteristics of the keys B1 to B4 are the same for the DLC4000.
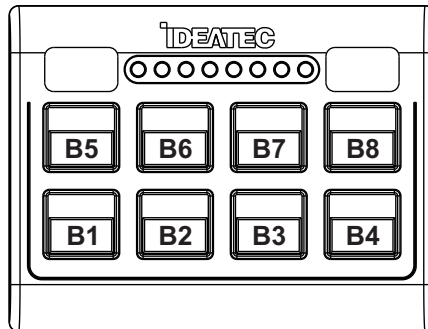
B1 – POSITIVE OUTPUT 1
Master function (the blue lights for example).

B2 – POSITIVE OUTPUT 2 & NEGATIVE OUTPUT 1
Slave function. If user pushes on the key B2 then the key B1 is activated too.
Automatically disabled when handbrake is activated and not activated again when handbrake is released.
Siren can be activated by positive input 3 (switch mode), when input 3 signal disappears then siren is going OFF too.

B3 – POSITIVE OUTPUT 3
Function for B3 linked to key B1. If user pushes on the key B1 then the key B3 is activated too.
Automatically disabled when handbrake is activated and not activated again when handbrake is released..

B4 – POSITIVE OUTPUT 4 & NEGATIVE OUTPUT 2 - POWER OFF & ON (LONG PRESS)

B5 – POSITIVE OUTPUT 5

B6 – POSITIVE OUTPUT 6

B7 – POSITIVE OUTPUT 7

B8 – POSITIVE OUTPUT 8
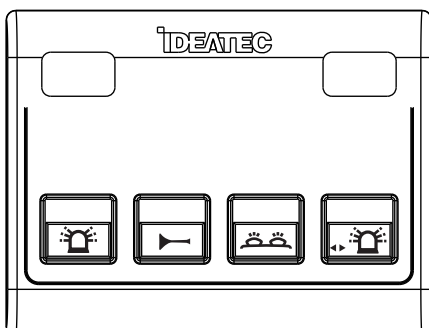
DLC4000 EXAMPLE   **DLC8000 EXAMPLE**
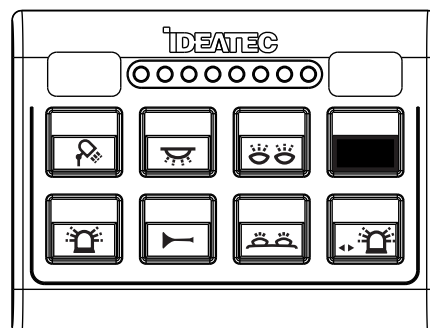
The automatic sleep mode is by default active after 1 minute if no keys are active and the positive signal after contact missing on positive input 1. Then after 1 minute the console and the permanent positive outputs will be shut off too.

ⓘ———— The options by default explained after page 14 are written in blue color.

11. *DLC4000* & *DLC8000*   Operation & Configuration

11.1. DLC4000 and DLC8000 consoles

The console DLC4000 with 4 backlit keys and the console DLC8000 with 8 backlit keys allow a pictogram to be inserted (Fig. 1).
A set of 88 pictograms is provided (Fig. 2).

Fig.2

Key (4x)   Key (8x)
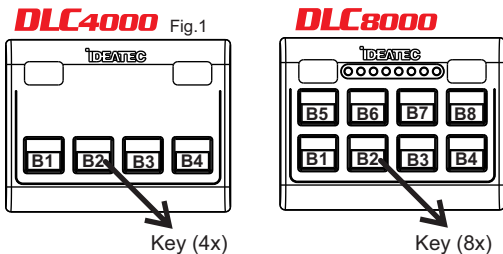
⚠ To make sure that the pictogram adheres properly in the cavity of each key, you should avoid touching the adhesive part of the pictograms and the cavity of the keys.
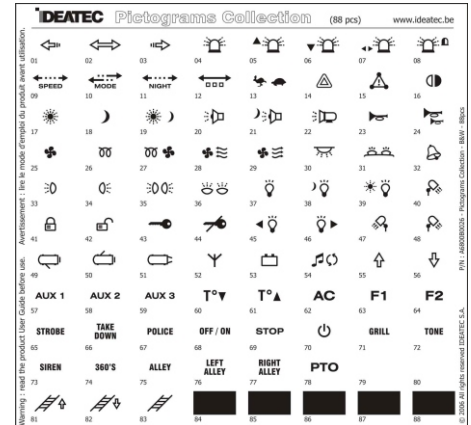
11.2. Description of the different light and sound codes

☐ = OFF

🟥 = LIT

🟥 = FLASHING

♪ → BEEP SOUND SIGNAL
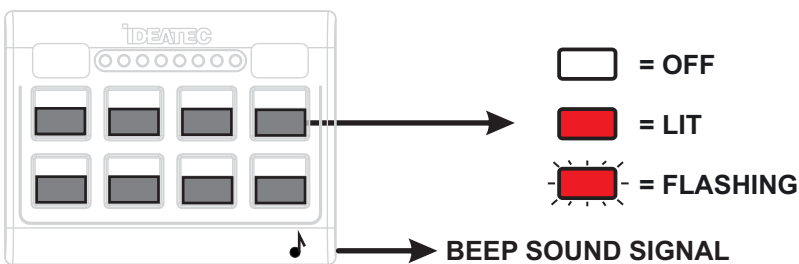
11.3. Keys operation

11.3.1. **No backlighting is present and key B4 is lit briefly every 5 seconds.**
This state indicates that the DLC4000 or the DLC8000 is in "sleeping" mode. In this state, the power consumption of the system is reduced to a minimum and all outputs are inactive. There are two ways of "waking up" the system. Press the key B4 on the console or to apply a signal to the positive input 1 ("Ignition Key Signal"). With either solution, at that time, the console will sound a very brief alarm and the console backlighting will be activated. Key B4 will stop sending its brief light signal. If some outputs are configured in "permanent" mode" (no function on the linked key) then they are automatically activated.
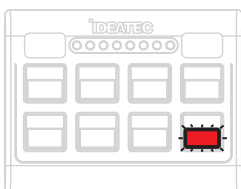
ⓘ ——— The console backlighting is only visible in the dark or semi-darkness.

11.3.2. **The key B1, B2, B3, ... or B4 is permanently lit.**
This state indicates that the function associated with that key is activated therefore simply press the key again to turn it off and desactivate the associated function.
Example :
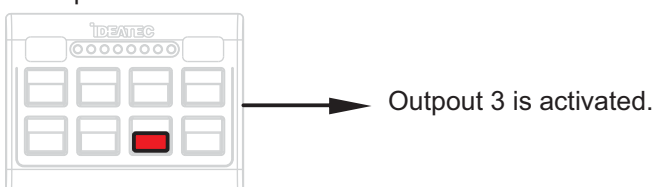
Output 3 is activated.

11. DLC4000 & DLC8000   Operation & Configuration (continued)

11.4. Before to configure the DLC4000 or the DLC8000

i — In order to make the configuration easier, it is recommended that you choose and place all pictograms on the console correctly. Additionally, touching the keys without placing the pictograms first may prevent proper adherence.

11.4.1. **Selection and placement of pictograms on the keys**
A collection of more than 88 pictograms is provided with the console. Select the symbols that match your application and place them on each cavity. Never touch the adhesive part with your fingers. If one or more keys will not be used, it is recommended that you place black adhesives provided for this purpose.
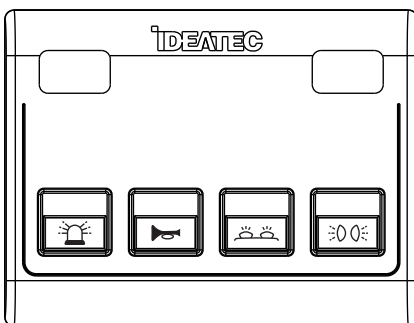
DLC4000 CONSOLE   DLC8000 CONSOLE
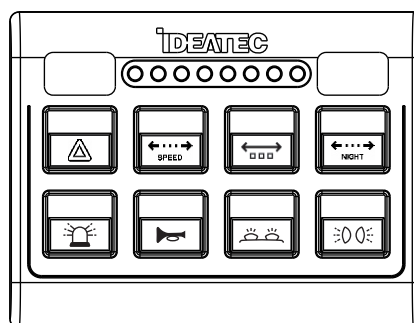
Example 1   Example 2

11.4.2. **Conditions for configuration.**
The console must be connected correctly to the power module using only the RJ45 provided from the manufacturer (see page 4). The power module must be powered by 10 to 28,5VDC.
Once the assembly is powered, the console sounds two brief warnings and its backlight is activated. From this moment, the configuration mode is accessible for five minutes, after which you will not be able to access it. If, after this time, you need to access the configuration again, disconnect the power module from the power supply for ± 3 seconds, and reconnect it. For this, it is always recommended to remove the positive wire from the power supply and to leave the negative one.

11.4.3. **To enter in configuration mode.**

There are two configuration modes for DLC4000/DLC8000. Mode 1 allows you to configure the keys 1 to keys 8 and inputs.
Mode 2 allows you to configure conditions and simulation for arrow stick functions and standby modes.
Connect power module on power supply and keep keys B1 and B3 for mode 1 pressed (Fig.1) or keys B2 and B4 pressed for mode 2 (Fig.2) until the console emits a repetitive beep, then release them . You are in configuration mode then you have the possibility to change the property of each key of the console.

CONFIGURATION MODE 1   **CONFIGURATION MODE 2**
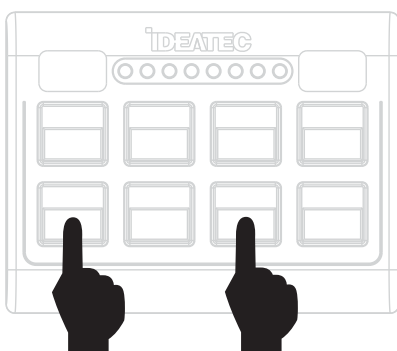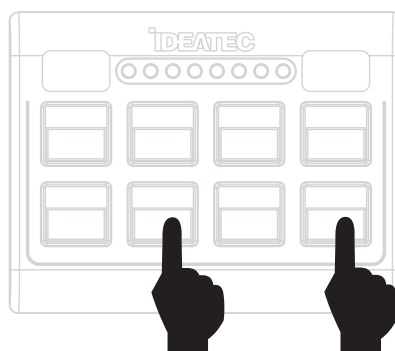
Fig.1   Fig.2

ATTENTION
FOR REASONS OF SAFETY, THE CONFIGURATION IS ONLY ACCESSIBLE WITHIN THE FIRST FIVE MINUTES. IF NO ACTION IS TAKEN DURING ONE MINUTE, THE SYSTEM EXITS CONFIGURATION AUTOMATICALLY. HOWEVER, ANY CHANGES MADE ARE SAVED.

11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)

11.4. Before to configure the DLC4000 or the DLC8000 (continued)

11.4.3. **To enter in configuration mode (continued)**

When you enter into configuration mode, each key is flashing several times cyclically. The number of flashes is corresponding to the selected option.
Example for the configuration by default :
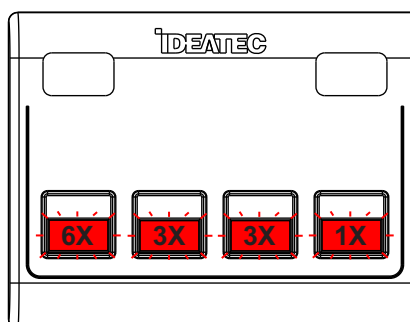
CONSOLE DLC4000
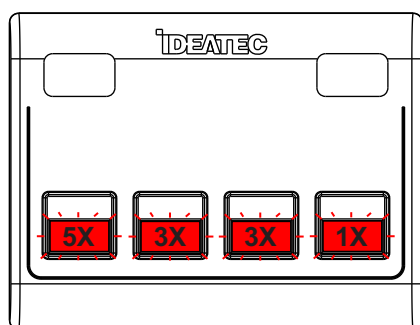
CONSOLE DLC8000
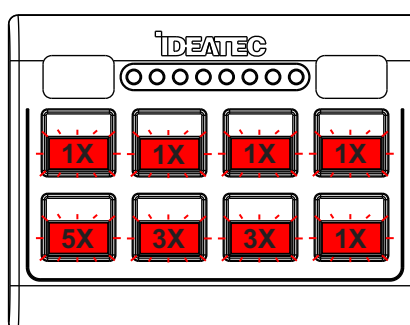
Example 1

Example 2

If you wish to select the option 6 in place of option 5 for key 1, you have to make a short press ↻ 👆 on B1.
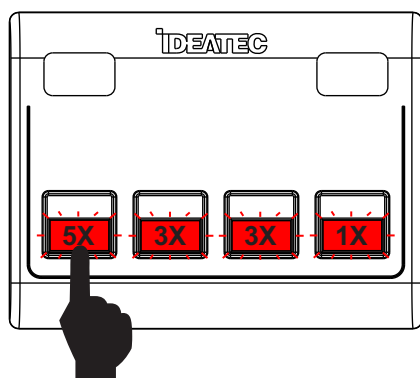
11.4.4. **To save your configuration**

When you finish your selection, save your configuration by pressing B1 & B3 if you were in the mode 1, B2 & B4 if you were in mode 2 once again during 3 seconds.

CONFIGURATION MODE 1
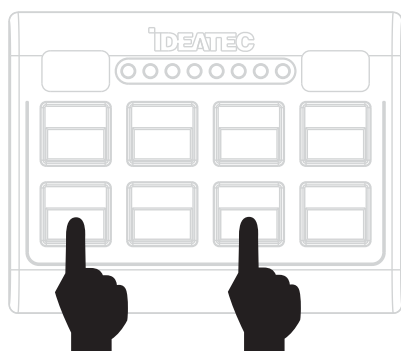
CONFIGURATION MODE 2

Fig.1
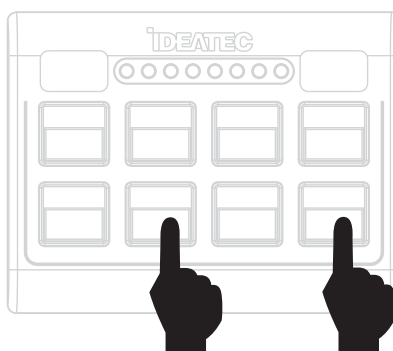
Fig.2

11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)

11.5. DLC4000/DLC8000 Configuration - MODE 1

10.5.1. Key B1 and positive input 3 configuration.

By default the key B1 is a switch and controls the positive output 1. The positive input 3 is an external activator fo the siren in « switch » mode. It's possible to disable the key B1 and to put a black pictogram on the key to notify the user of the console that the key is not available.
When the key is not available then the positive output 1 is a permanent positive output.
Key B1 is by default the Master key for all the functions linked in the B2, B2 or B4 configurations.
The positive input 3 functions are also configured by B1 key in configuration mode 1.
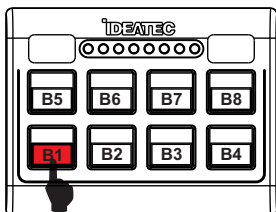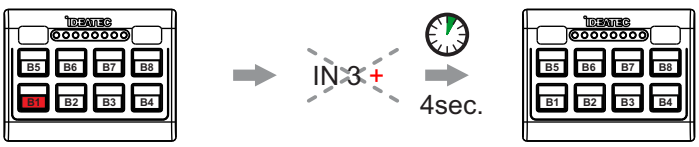
↻ 👆 = one pulse on the key

SELECTION	FLASHES	DESCRIPTION
↻👆	0	Key B1 is not available and the positive output 1 is a permanent positive output. Positive input 3 is not used.
1X ↻👆	1	Key B1 is a switch and activates the positive output 1. Key B1 is the Master key by default. Positive input 3 is not used.
2X ↻👆	2	Key B1 is a momentary push button and activates the positive output 1 when it is pressed and positive output 1 is OFF when key B1 is released. Positive input 3 is not used.
3X ↻👆	3	Key B1 is available and activates the positive output 1. Key B1 is the Master key by default. **Positive input 3** is an input for **blue light status.** **Blue light (B1) is going OFF** after 4 seconds if no signal is connected to the positive input 3. IN 3 + → 4sec.
4X ↻👆	4	Key B1 is available and activates the positive output 1. Key B1 is the Master key by default. **Positive input 3** is an input for **blue light status** if key B2 is configured as siren mode**.** **The siren (B2)** is goinf is going OFF after 4 seconds if no signal is connected to the positive input 3. IN 3 + → 4sec.

11. DLC4000 & DLC8000   Operation & Configuration (continued)

11.5. DLC4000/DLC8000 Configuration - MODE 1 (continued)

10.5.1. Key B1 and positive input 3 configuration (continued).

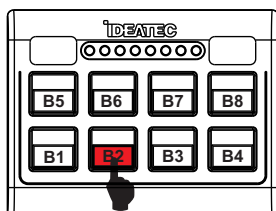| SELECTION	FLASHES	DESCRIPTION
5X	**5**	Key B1 is a switch and activates the positive output 1. Key B1 is the Master key by default. **Positive input 3** is a external activator in **switch mode** if the key B2 is configured in siren mode. The siren is working until the signal on input 3 is active (siren can always be activated or disabled by the key B2).
6X	6	Key B1 is a switch and activates the positive output 1. Key B1 is the Master key by default. **Positive input 3** is a external activator in **pulse mode** if the key B2 is configured in siren mode. First pulse on input 3 = siren start, second pulse = siren stop (siren can always be activated or disabled by the key B2).
7X	7	Key B1 is a switch and activates the positive output 1. Key B1 is the Master key by default. **Positive input 3** is a external activator in **switch mode** if the key B2 is configured in siren mode and the key **B1 « blue light » is already activated**. The siren is working until the signal on input 3 is active (siren can always be activated or disabled by the key B2).
8X	8	Key B1 is a switch and activates the positive output 1. Key B1 is the Master key by default. **Positive input 3** is a external activator in **pulse mode** if the key B2 is configured in siren mode and the key **B1 « blue light » is already activated**. First pulse on input 3 = siren start, second pulse = siren stop (siren can always be activated or disabled by the key B2).

11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)

11.5. DLC4000/DLC8000 Configuration - MODE 1 (continued)

10.5.2. Key B2 and negative input 2 configuration.

By default the key B2 is a switch in Slave mode and controls the positive output 2 / negative ouput 1.
It's possible to disable the key B2 and to put a black pictogram on the key to notify the user of the console that the key is not available.
When the key is not available then the positive output 2 / negative output 1 are permanent outputs.
Some functions of the negative input 2 are also configured by B2 key in configuration mode 1.

(i) In order to avoid configuration mistakes, it is impossible to configure B2 key in slave mode if the key B1 is disabled. It is also impossible to disable Key B1 if the key B2 is already configured in slave mode.

SELECTION	FLASHES	DESCRIPTION
	0	Key B2 is not available and the positive output 2 / negative out 1 are permanent positive outputs.
1X	1	Key B2 is a switch and activates the positive output 2 / negative output 1. Key B2 is the Slave key by default. Negative input 2 is not used.
2X	2	Key B2 is a momentary push button and activates the positive output 1 / negative output 2 when it is pressed and positive output 2 / negative ouput 1 is OFF when key B2 is released. Negative input 2 is not used.
3X	3	Key B2 is a switch in Slave mode and activates the positive output 2 / negative output 1. Key B2 working is conditioned by the negative input2 (handbrake signal). If the signal is present on negative input 2 the key B2 is disabled and cannot be activated until the signal is still present. Key B2 is not automatically activated if the signal on negative input 2 disapears.
4X	4	Key B2 is a switch in Slave mode and activates the positive output 2 / negative output 1. Key B2 working **is not** conditioned by the negative input2 (handbrake signal).

11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)

11.5. DLC4000/DLC8000 Configuration - MODE 1 (continued)

10.5.2. Key B2 and negative input 2 configuration (continued)

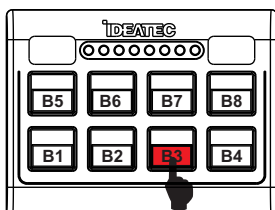| SELECTION	FLASHES	DESCRIPTION
5X	5	Key B2 is a switch in Salve mode (siren) and controls the positive output 2 / negative output 1. Key 2 is conditioned by the negative input 2 (siren status). When the siren is activated, she send back a negative signal to confirm that all is working perfectly. If this signal disappears then after 4 seconds key B2 is going OFF automatically. Siren can be started again but only by pressing key B2.
6X	6	Key B2 is a switch controlling positive output 2 / negative output 1 and is conditioned by the key B1 (Master key, blue light). Key B2 working is conditioned by the negative input2 (handbrake signal). If the signal is present on negative input 2 the key B2 is disabled and cannot be activated until the signal is still present. Key B2 is not automatically activated if the signal on negative input 2 disapears.
7X	7	Key B2 is a switch controlling positive output 2 / negative output 1 and is conditioned by the key B1 (Master key, blue light). Key B2 **is not** conditioned by the negative input 2.
8X	8	Key B2 is a switch controlling positive output 2 / negative output 1 and is conditioned by the key B1 (Master key, blue light). Key 2 is also conditioned by the negative input 2 (siren status). When the siren is activated, she send back a negative signal to confirm that all is working perfectly. If this signal disappears then after 4 seconds key B2 is going OFF automatically. Siren can be started again but only by pressing key B2.

11. DLC4000 & DLC8000   Operation & Configuration (continued)

11.5. DLC4000/DLC8000 Configuration - MODE 1 (continued)

10.5.3. Key B3 and negative input 2 configuration.

By default the key B3 is available and controls the positive ouput 3. Key B3 is also configured as grill light function.
It's possible to disable the key B3 and to put a black pictogram on the key to notify the user of the console that the key is not available. When the key is not available then the positive output 3 is a permanent positive output, going OFF only when console is off or the power supply of the DLC4000 or DLC8000 is disconnected.

ⓘ In order to avoid configuration mistakes, it is impossible to configure key B3 in grill light mode if the key B1 is disabled. It is also impossible to disable Key B1 if the key B3 is already configured in grill light mode.

SELECTION	FLASHES	DESCRIPTION
	0	Key B3 is not available and the positive output 3 is permanent positive output.
1X	**1**	Key B3 is a switch and activates the positive output 3. No condition.
2X	**2**	Key B3 is a momentary push button and activates the positive output 3 when it is pressed and positive output 3 is OFF when key B1 is released.
3X	**3**	Key B3 is a switch in « grill light » mode and controls the positive output 3. Key B3 is also activated automatically by key B1 as Master key by default. Key B3 is conditioned by the negative input 2 « handbrake ». If the negative signal is applied on the input 2 « handbrake » then key B3 is going OFF and cannot be activated if the signal on input 2 is still active. Key B3 **is not activated again** if the negative signal on input 2 disappears.
4X	**4**	Key B3 is a switch in « grill light » mode and controls the positive output 3. Key B3 is also activated automatically by key B1 as Master key by default. Key B3 is conditioned by the negative input 2 « handbrake ». If the negative signal is applied on the input 2 « handbrake » then key B3 is going OFF and cannot be activated if the signal on input 2 is still active. Key B3 **is activated again** if the negative signal on input 2 disappears (if B1 still ON).
5X	**5**	Key B3 is a switch in « grill light » mode and controls the positive output 3. Key B3 is also activated automatically by key B1 as Master key by default. Key B3 <u>is not</u> conditioned by the negative input 2 « handbrake ».

11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)

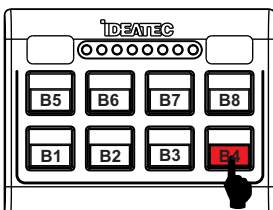## 11.5. DLC4000/8000 Configuration - MODE 1 (continued)

10.5.4. Key B4 and negative input 2 configuration.

By default the key B4 is a switch available and is linked to positive output 4 / negative ouput 2.
It's possible to disable the key B4 and to put a black pictogram on the key to notify the user of the console that the key is not available. When the key is not available then the positive output 4 / negative output 2 are permanent outputs, going off only when console is off or the power supply of the DLC4000 or DLC8000 is disconnected.
Key B4 can be used as « markup » function.
Some functions are linked to the negative input 2.

SELECTION	FLASHES	DESCRIPTION
	0	Key B4 is not available and the positive output 4 / negative output 2 are permanent positive outputs.
	1	Key B4 is a switch and activates the positive output 4 / negative output 2. No condition.
	2	Key B4 is a momentary push button and activates the positive output 4 / negative output 2 when it is pressed and the 2 ouputs are going OFF when key B4 is released.
	3	Key B4 is a switch working in « markup » mode and controls positive output 4 / negative output 2. Key B4 is activated if key B1 is active (« blue lights ») and « handbrake » signal is applied on negative input 2. Key B4 can be controlled manually when key B1 is active and « handbrake » is ON.
	4	Key B4 is an exclusive switch working in « markup » mode and controls positive output 4 / negative output 2. Key B1 and key B4 are in « group » mode : if key B1 is active and key B4 is pressed then key B1 is going OFF automatically. If key B4 is active and key B1 is pressed then key B4 is going OFF automatically. No interlock function with negative input 2.
	5	Key B4 is a switch and activates the positive output 4 / negative output 2. Key B4 is included inside the scene 2, only if key B6 is configured in scene 2 mode. See key B6 configuration in scene 2 mode on page 22.

11. DLC4000 & DLC8000   Operation & Configuration (continued)

11.5. DLC8000 Configuration - MODE 1 (continued)

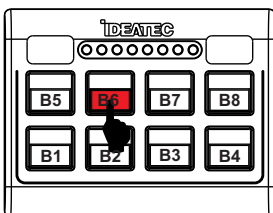### 10.5.5. Key B5 configuration (DLC8000 only).

By default the key 5 is a switch available and is linked to positive output 5.
It's possible to disable the key B5 and to put a black pictogram on the key to notify the user of the console that the key is not available. When the key is not available then the positive output 5 is permanent output, going off only when console is off or the power supply of the DLC8000 is disconnected.
Key B5 can be used as scene activator or arrowstick controller with or without handbrake condition.
Some functions are linked to the negative input 2.

SELECTION	FLASHES	DESCRIPTION
	0	Key B5 is not available and the positive output 5 is permanent positive output.
1X	1	Key B5 is a switch and activates the positive output 5. No condition.
2X	2	Key B5 is a momentary push button and activates the positive output 5 when it is pressed and the positive ouput 5 is going OFF when key B5 is released.
3X	3	Key B5 is a switch and is included in the group **1** with B6, B7 and B8 if they are configured in group **1** mode. See the description of the function group **1** on page 25. Special conditions with negative input 2 for group **1** are available in configuration mode 2 (see page 28).
4X	4	Key B5 is a switch and is included in the group 2 with B6, B7 and B8 if they are configured in group **2** mode. See the description of the function group **2** on page 25. Special conditions with negative input 2 for group **2** are available in configuration mode 2 (see page 28).
5X	5	Key B5 is a switch and starts the scene 1. Scene 1 starts automatically the keys B1, B2, B3 and B4. If B6 is configured in scene 2 mode, so B5 and B6 are working like a group (only one key ON at the same time). See page 26 for more details.

11. DLC4000 & DLC8000   Operation & Configuration (continued)

11.5. DLC8000 Configuration - MODE 1 (continued)

10.5.6. Key B6 configuration (DLC8000 only).

By default the key 6 is a switch available and is linked to positive output 6.
It's possible to disable the key B6 and to put a black pictogram on the key to notify the user of the console that the key is not available. When the key is not available then the positive output 6 is permanent output, going off only when console is off or the power supply of the DLC8000 is disconnected.
Key B6 can be used as scene activator or arrowstick controller with or without handbrake condition.
Some functions are linked to the negative input 2.

SELECTION	FLASHES	DESCRIPTION
	0	Key B6 is not available and the positive output 6 is permanent positive output.
1X	1	Key B6 is a switch and activates the positive output 6. No condition.
2X	2	Key B6 is a momentary push button and activates the positive output 6 when it is pressed and the positive ouput 6 is going OFF when key B6 is released.
3X	3	Key B6 is a switch and is included in the group **1** with B5, B7 and B8 if they are configured in group **1** mode. See the description of the function group **1** on page 25. Special conditions with negative input 2 for group **1** are available in configuration mode 2 (see page 28).
4X	4	Key B6 is a switch and is included in the group 2 with B5, B7 and B8 if they are configured in group **2** mode. See the description of the function group **2** on page 25. Special conditions with negative input 2 for group **2** are available in configuration mode 2 (see page 28).
5X	5	Key B6 is a switch and starts the scene 2. Scene 2 starts automatically the keys B1, B3, and B4 if key B4 is included in the scene 2 (see configuration page 20, last option). If B5 is configured in scene 1 mode, so B5 and B6 are working like a group (only one key ON at the same time). See page 26 for more details. If B4 included in scene 2. **OR** If B4 not included in scene 2.

11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)
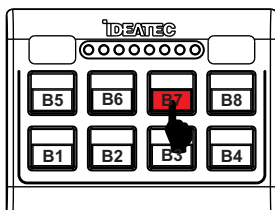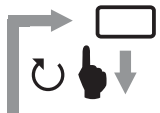
11.5. DLC8000 Configuration - MODE 1 (continued)

10.5.7. Key B7 configuration (DLC8000 only).

By default the key 7 is a switch available and is linked to positive output 7.
It's possible to disable the key B7 and to put a black pictogram on the key to notify the user of the console that the key is not available. When the key is not available then the positive output 7 is permanent output, going off only when console is off or the power supply of the DLC8000 is disconnected.
Key B7 can be used as arrowstick controller with or without handbrake condition.
Some functions are linked to the negative input 2.

SELECTION	FLASHES	DESCRIPTION
	0	Key B7 is not available and the positive output 7 is permanent positive output.
1X	1	Key B7 is a switch and activates the positive output 7. No condition.
2X	2	Key B7 is a momentary push button and activates the positive output 7 when it is pressed and the positive ouput 7 is going OFF when key B7 is released.
3X	3	Key B7 is a switch and is included in the group **1** with B5, B6 and B8 if they are configured in group **1** mode. See the description of the function group **1** on page 25. Special conditions with negative input 2 for group **1** are available in configuration mode 2 (see page 28).
4X	4	Key B7 is a switch and is included in the group 2 with B5, B6 and B8 if they are configured in group **2** mode. See the description of the function group **2** on page 25. Special conditions with negative input 2 for group **2** are available in configuration mode 2 (see page 28).

11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)
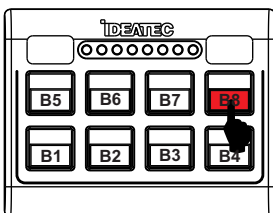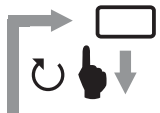
11.5. DLC8000 Configuration - MODE 1 (continued)

10.5.8. Key B8 configuration (DLC8000 only).

By default the key 8 is a switch available and is linked to positive output 8.
It's possible to disable the key B8 and to put a black pictogram on the key to notify the user of the console that the key is not available. When the key is not available then the positive output 8 is permanent output, going off only when console is off or the power supply of the DLC8000 is disconnected.
Key B7 can be used as arrowstick controller with or without handbrake condition.
Some functions are linked to the negative input 2.

SELECTION	FLASHES	DESCRIPTION
	0	Key B8 is not available and the positive output 8 is permanent positive output.
1X	1	Key B8 is a switch and activates the positive output 8. No condition.
2X	2	Key B8 is a momentary push button and activates the positive output 8 when it is pressed and the positive ouput 8 is going OFF when key B8 is released.
3X	3	Key B8 is a switch and is included in the group **1** with B5, B6 and B7 if they are configured in group **1** mode. See the description of the function group **1** on page 25. Special conditions with negative input 2 for group **1** are available in configuration mode 2 (see page 28).
4X	4	Key B8 is a switch and is included in the group 2 with B5, B6 and B7 if they are configured in group **2** mode. See the description of the function group **2** on page 25. Special conditions with negative input 2 for group **2** are available in configuration mode 2 (see page 28).

11. *DLC4000 & DLC8000*   Operation & Configuration (continued)

11.5. DLC8000 Configuration - MODE 1 (continued)

11.5.9. Description of group 1 for keys B5-B6-B7-B8 (DLC8000 only).

If the keys B5, B6, B7 and B8 are configured in the group 1 mode, only one of these 4 keys can be activated at the same time.
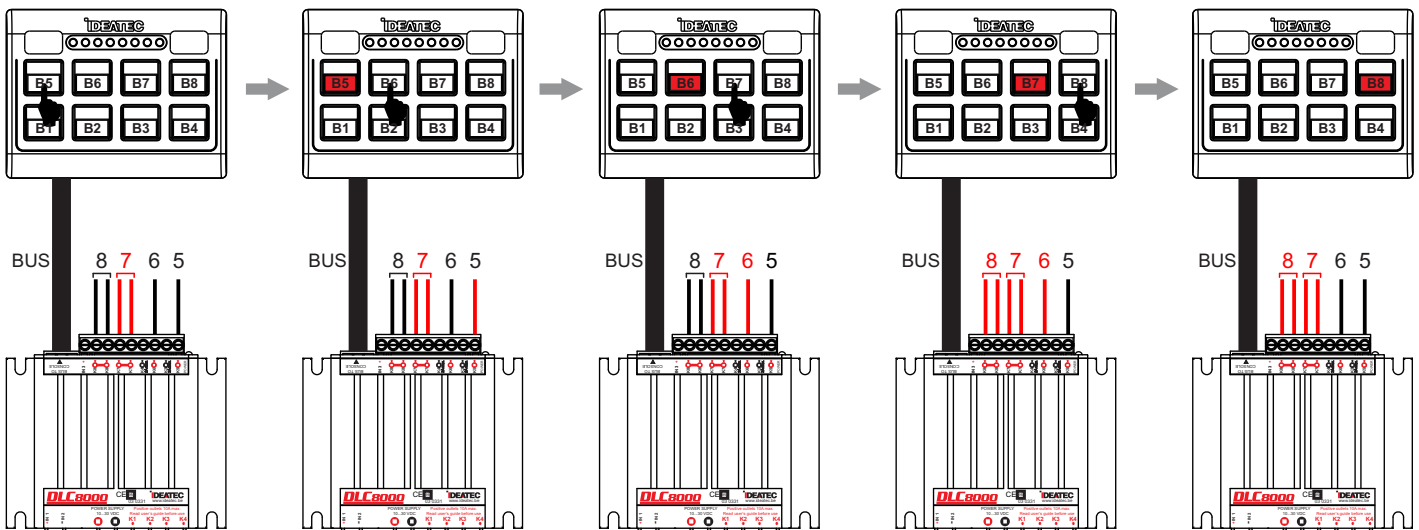Key B5 controls the positive output 5.
Key B6 controls the positive output 6.
Key B7 controls the positive outputs 6 and 8.
Key B8 controls the positive output 8.
The positive output 7 is a permanent positive ouput.

11.5.10. Description of group 2 for keys B5-B6-B7-B8 (DLC8000 only).

If the keys B5, B6, B7 and B8 are configured in the group 2 mode, only one of these 4 keys can be activated at the same time.
Key B5 controls the positive output 5.
Key B6 controls the positive output 6.
Key B7 controls the positive output 7.
Key B8 controls the positive output 8.
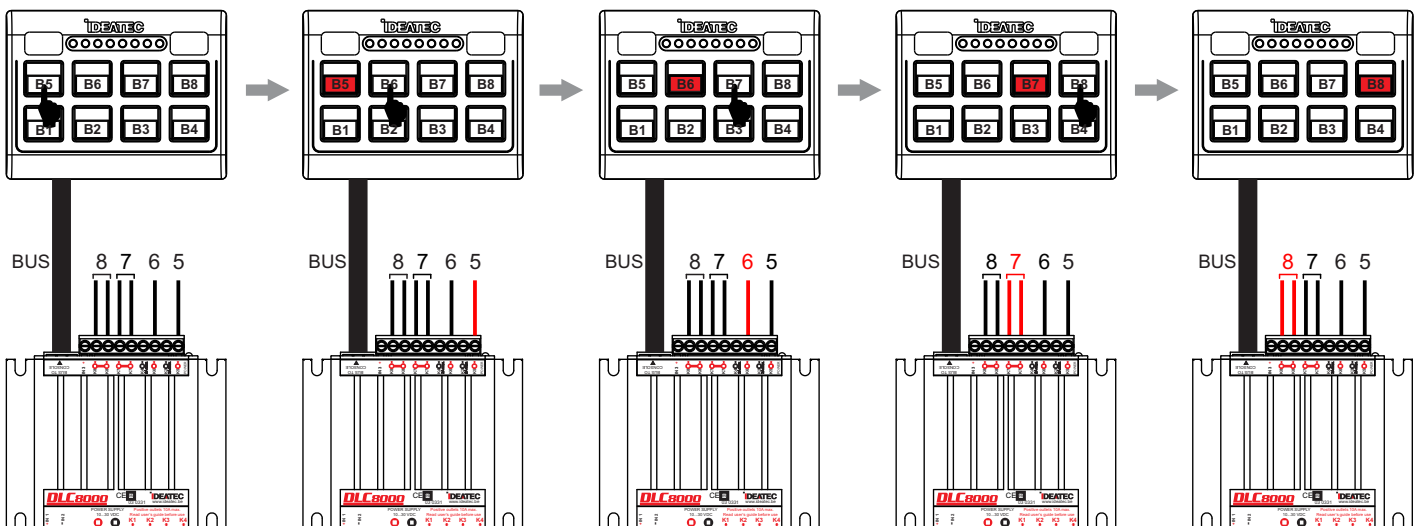
11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)

11.5. DLC8000 Configuration - MODE 1 (continued)

11.5.11. Description of the scenes 1 and 2 controlled by B5 and B6 keys (DLC8000 only).

Keys B5 and B6 can be configured like scene 1 and scene 2 activators (see page 21 and 22).
Scene 1 and 2 are exclusive, they cannot, by definition, be activated at the same time.
B5 starts the keys B1, B2, B3 and B4 whereas B5 starts the keys B1, B3 and B4 (B4 in option).

If B4 not included in the scene 2.
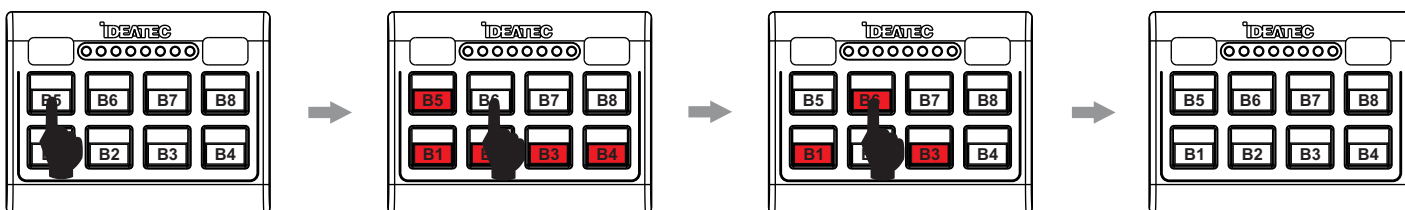
If B4 included in the scene 2.
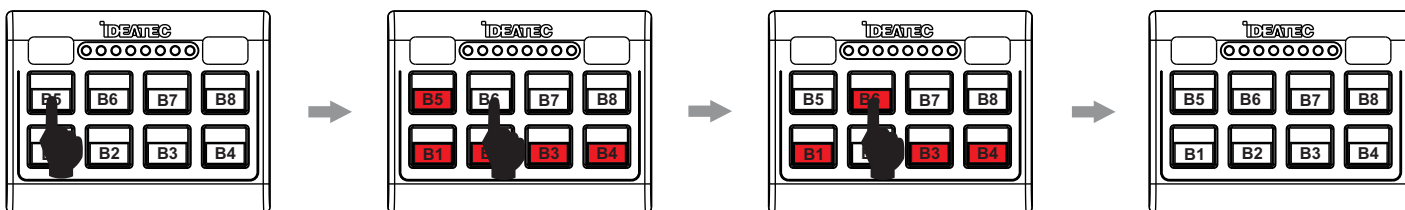
ⓘ——— Some options for keys B1, B2, B3 and B4 are not compatible with scenes configured on B5 and B6
(example : momentary push button for the key B1).

11. DLC4000 & DLC8000   Operation & Configuration (continued)
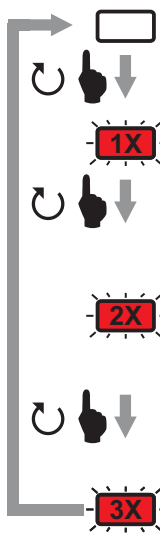
11.6. DLC4000/DLC8000 Configuration - MODE 2

11.6.1. Automatic standby configuration for DLC4000/DLC8000

Configuration on key B1.
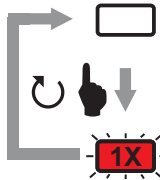
SELECTION	FLASHES	DESCRIPTION
	0	Automatic standby after **1** minute if no keys are activated and positive signal from +ingnition is not present on positive input 1 of the DLC4000/DLC8000.
1X	1	Automatic standby after **15** minutes if no keys are activated and positive signal from +ingnition is not present on positive input 1 of the DLC4000/DLC8000.
2X	2	Automatic standby after **1** minute if no keys are activated and positive signal from +ingnition is not present on positive input 1 of the DLC4000/DLC8000. If long press on key B4 then all the keys are going OFF (permanent outputs stay ON) and the system is falling into sleep after 20 seconds (permanent outputs are going OFF).
3X	3	Automatic standby after **15** minutes if no keys are activated and positive signal from +ingnition is not present on positive input 1 of the DLC4000/DLC8000. If long press on key B4 then all the keys are going OFF (permanent outputs stay ON) and the system is falling into sleep after 20 seconds (permanent outputs are going OFF).

11.6.2. Configuration of the flashes on B4 when DLC4000/DLC8000 is in standby mode.

Configuration on key B2.
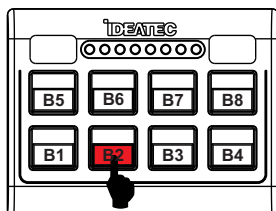
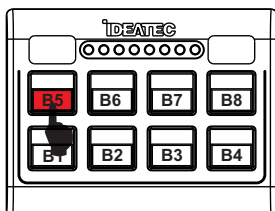| SELECTION	FLASHES	DESCRIPTION
	0	Key B4 is flashing when DLC4000/DLC8000 is in standby mode.
1X	1	Key B4 is **<u>not</u>** flashing when DLC4000/DLC8000 is in standby mode.

11. DLC4000 & DLC8000   Operation & Configuration (continued)

11.6. DLC4000/DLC8000 Configuration - MODE 2 (continued)

11.6.3. Conditions for directional lightbar configuration (DLC8000 only)

The configuration is made by the key B5 and gives the possibility to configure conditions with negative input 2 (« handbrake ») for the keys B5, B6, B7 and B8 if they are configured in group 1 or group 2 mode.

SELECTION	FLASHES	DESCRIPTION
	0	No condition for the keys B5, B6, B7 and B8.
1X	**1**	Keys B5, B6, B7 and B8 are conditioned by negative input 2 (« handbrake ») if they are configured in group 1 or group 2 mode.
2X	**2**	Keys B5, B6, B7 and B8 are conditioned by negative input 2 (« handbrake ») if they are configured in group 1 or group 2 mode and the negative input 2 starts automatically the key B5 (« Warning mode »).
3X	**3**	Keys B5, B6, B7 and B8 are conditioned by negative input 2 (« handbrake ») if they are configured in group 1 or group 2 mode and the negative input 2 combined with key B1 activated (« blue lights ») starts automatically the key B5 (« Warning mode »).

11. *DLC4000* & *DLC8000*   Operation & Configuration (continued)

11.6. DLC4000/DLC8000 Configuration - MODE 2 (continued)

11.6.4. Simulation for the directional lightbar (DLC8000 only).

Configuration on the key B6.
The simulation for the directional lightbar is working only if the keys B5, B6, B7 and B8 are configured in group 1 or group 2 mode.
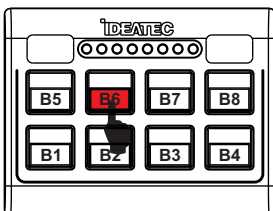
SELECTION	FLASHES	DESCRIPTION
	0	No directional lightbar simulation.
	1	Simulation for directional lightbar is available. **If B5 is ON** **If B6 is ON** **If B7 is ON** **If B8 is ON**

12. *DLC4000* & *DLC8000*   All our user guides on one CD-ROM

A CD-ROM with all operating modes is provided with each IDEATEC product

PDF format for easy access, guaranteed updates, ecologic.

13. *DLC4000* & *DLC8000*   Your warranty

IDEATEC S.A hereby guarantees that this product is free from defects in material and workmanship for a period of two years from the date of purchase. If, during the warranty period, the product fails due to material or workmanship defects, IDEATEC S.A. will repair or replace (at IDEATEC S.A.'s discretion) the product free of charge, under the following conditions: IDEATEC S.A. reserves the right (at its own discretion) to replace parts of defective products or replace the products low value with new or factory refurbished parts or products. Conditions:

1. This warranty is valid only if the device is accompanied by the original invoice or receipt (containing the date of purchase, the type of product, and the name of the reseller).
IDEATEC S.A. reserves the right to deny its free warranty if the aforementioned documents cannot be produced or if the information contained in them are incomplete or illegible.
2. This warranty does not reimburse or cover deterioration resulting from adaptations or adjustments to the product without prior written consent from IDEATEC S.A., mainly to respect technical or safety standards, national or local, in effect in all countries other than for those for which the product is known and manufactured.
3. This warranty does not apply if the model or serial number on the product has been altered, erased, suppressed, or illegible.
4. This warranty does not cover any of the following points:
a. Periodic maintenance and repair or replacement of parts from normal usage;
b. Any adaptations or modifications aimed at improving the product such as it has been purchased and described in the operating instructions, without prior written agreement from IDEATEC S.A.;
c. Transportation costs, home delivery costs, and all transport risks directly or indirectly associated with this product's warranty;
d. Installation, removal, and reinstallation costs;
e. Deterioration resulting from:
1. Misuse, including, without limitation, (a) improper use of the product without respecting IDEATEC S.A.'s instructions on proper product usage and maintenance, and (b) installation or usage of the product against IDEATEC S.A.'s instructions or technical or safety standards in effect in the country where it is used, and (c) improper or incorrect software installation;
2. Repairs performed by unauthorised repair persons or by the user;
3. Accidents, lightning, flood, fire, improper ventilation, or any other case that exceeds IDEATEC S.A. liability;
4.Failure of the system on which the product is installed.
5.This warranty does not limit the client's statutory rights under national laws in effect in any way, nor the client's rights before the reseller, stipulated in the sales/purchasing contract.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)