

# MIKAPACK 30

User Manual  
Issue 1.0





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## 1. Generalities

### 1.1 Delivery - Unpacking

Upon delivery of your equipment, open the packaging carefully and examine the dimmer unit. If you observe any damage, contact the shipping company immediately, and have your complaint duly recorded. You may rest assured that your equipment left the factory in perfect condition.

Check whether what you have received is in conformity with the delivery notice, and whether the notice is in conformity with your order.

In the event of any error, contact your shipper immediately to clarify the situation and receive full satisfaction. If you find nothing wrong, replace the material in the packing and store it in a warm place, away from dust and humidity, while awaiting final installation. Never leave the material on the worksite under any circumstance.

### 1.2 Safety

The MIKAPACK 30 is professional fully digital dimmers built in accordance with European safety standards EN 62368.

It is a Class I equipment designed and manufactured to EN 62368 and requires imperatively a safety earth connection in compliance with local regulations. The unit is IP20 rated.

To prevent any risk of electric shock, do not remove any cover or part of the enclosure. Access to internal parts is not required for normal operation. Refer servicing to skilled and trained service personnel exclusively. Disconnect from the power supply prior to opening for inspection or service.

#### **WARNING! LETHAL VOLTAGES ARE PRESENT INSIDE**

Connection to an inappropriate power source may irreversibly damage the dimmer unit, it is the user's responsibility to use it for its intended purpose and to check the equipment connected to it.

The MIKAPACK 30 is professional equipment developed with the simplicity of use in mind. However, to obtain full benefits of the safety measures, the equipment shall be installed and serviced by skilled and trained personnel exclusively.

**Important Notice** for Power Cables Power supply cables and connectors are an important part of your equipment and contribute to its safety.

- Always use an isolator or main circuit-breaker or RCD (use the TEST button), or main fuses to interrupt the link; never pull on the cable.
- Do not damage the cable nor the connectors in any way, check them at each installation or at regular intervals in a permanent installation.
- Do not tie together power supply cables and signal cables.

## 1.3 Description

12 x 3 kW all-digital dimmer pack in 19" combining high quality with economic and above average performance, for general purpose applications in stage and architectural lighting whenever space, cost and reliability are the prime considerations.



### 1.3.1 Weight and dimensions

Dimensions (mm)	: 440 x 355 x 132
Net Weight (kg)	: 15
Packing (mm)	: 620 x 620 x 230
Gross Weight (kg)	: 16

### 1.3.2 Main Features

- 4 control buttons, 2 x 8 character LCD display and user-friendly menu for easy access to all dimmer functions.
- DB9 connector for Cue Recall.
- First dimmer address selection.
- Local test of a dimmer (steady or chaser).
- 6 pre-programmed chasers with 6 intensity levels.
- Patch selectable per dimmer.
- 9 dimmer laws selectable per dimmer + 1 user programmable law.
- Preheat selectable per dimmer.
- Dimmer maximum levels selectable per dimmer.
- Storage of 16 lighting cues.
- Last lighting maintained in case of DMX signal interruption or loss. (cue, last DMX values or fading out).
- Return to factory defaults values.
- User customization of menu items.

### 1.3.3 Technical Specifications

- Power supply : 230 V / 400 V Star 3NPE, 50/60 Hz
- Consumption : 53 A per phase
- Power supply cable 1.5 m – 5 x 10 mm<sup>2</sup> (except for the MIKAPACK with screw-on terminal strip)
- Dimmer protection with MCB's, 1P+N
- Suitable for continuous duty at 12 x 3kW – 35 °C
- TRIACS BTA41-600 - 40 Amps.

- Professional filtering
- Control protocol: DMX512A

### 1.3.4 Supplied with

- instruction manual
- 2 brackets for 19" rack mounting
- 4 rubber feeds to fix on the MIKAPACK; possible to fix at bottom side or right side.
- Additional plate to fix both rear sides of the MIKAPACK for rack mounting.

### 1.3.5 Options

#### 1.3.5.1 Carrying handle

Carry handle to make the MIKAPACK easy portable

## 1.4 Precautions

Your dimmer is equipped with a forced ventilation system, with a low-noise, high performance fan. This allows continuous use at full rated load. For MIKAPACK, air intake apertures are on the right side panel, and the exhaust aperture is on the left side panel. Do never obstruct these apertures!

Keep side apertures clear for ventilation. Keep minimum 5 cm open space for ventilation.



## 2. Front Panel



- 3 red LED indicators for the supply phases (L1 – L2 – L3).
- 2 green LED indicators for control signals (Run and DMX).
- 12 green LED indicators for the dimmer channels.
- 4 control buttons.
- 2 x 8 character LCD display.
- DMX IN XLR 5 F and DMX OUT XLR 5 M connector.
- DB9 connector for Cue Recall.

### 3. Power Supply Connection and Outlet Panels

#### 3.1 Mains Supply

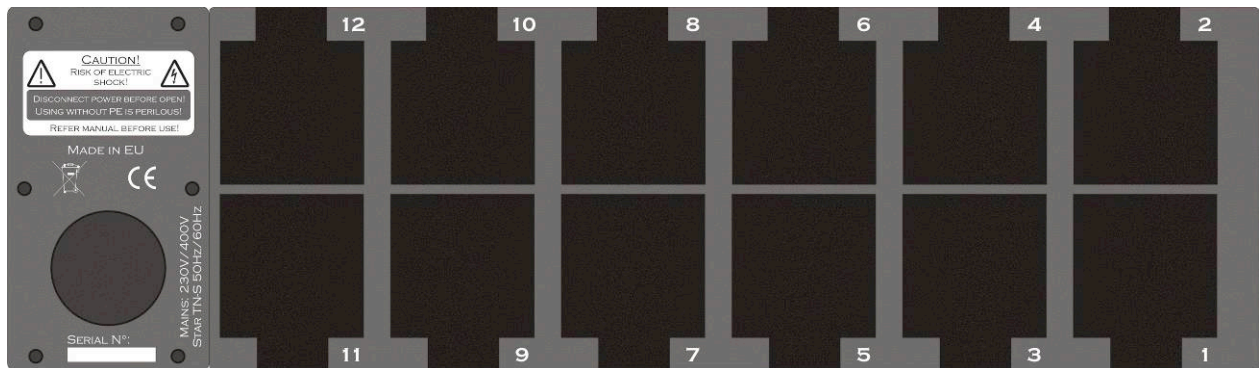
- Mains supply 3NPE (TN-S), 400 V, 50 / 60 Hz
- Single-phase operation possible (single-pole protected)

#### 3.2 Power Supply

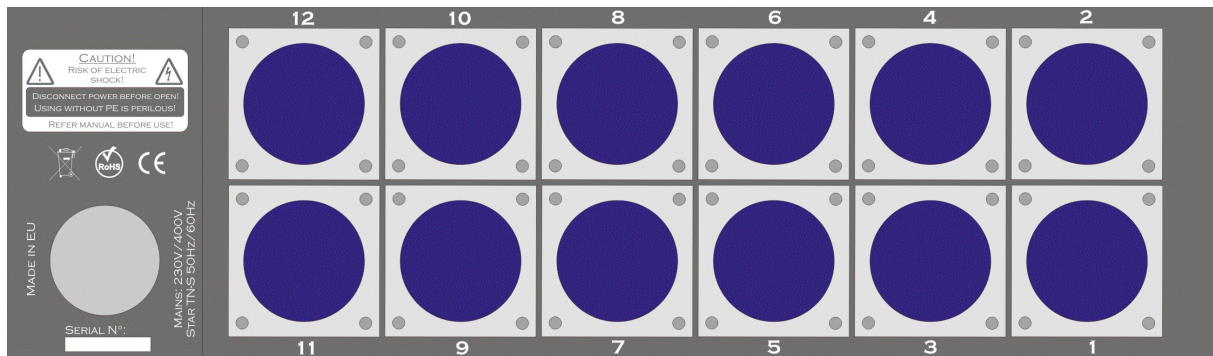
Power supply cable 1.5 m – 5 x 10 mm<sup>2</sup> except for the MIKAPACK with screw-on terminal strip

#### 3.3 Outlet Panels

##### 3.3.1 NF/Cebec and Schuko



##### 3.3.2 CEE 16 A (P17)



##### 3.3.3 Swiss

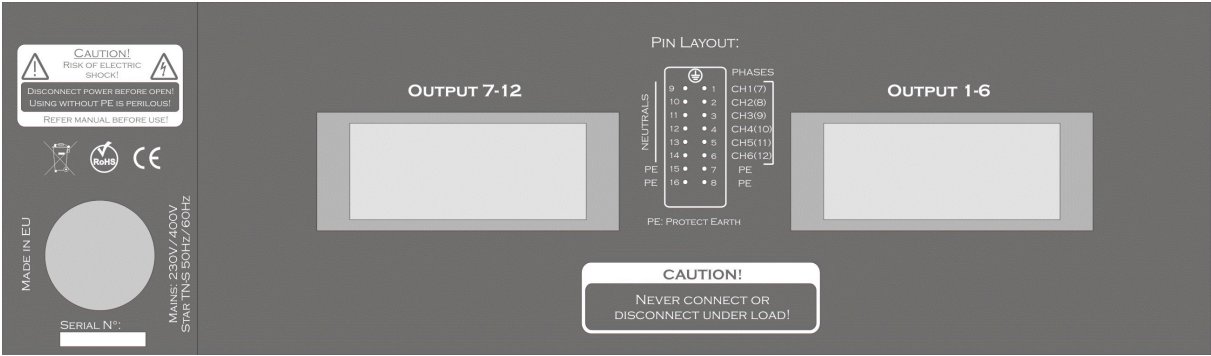
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##### 3.3.4 UK 15 A

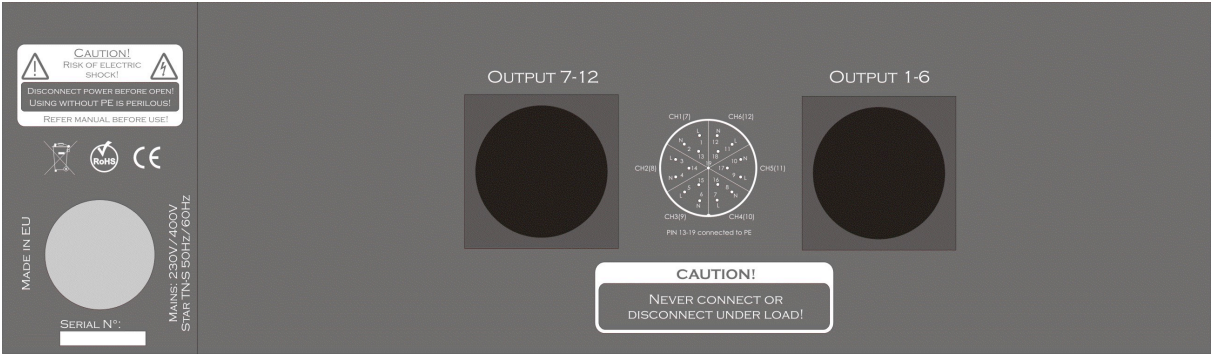
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3.3.5 2x Harting

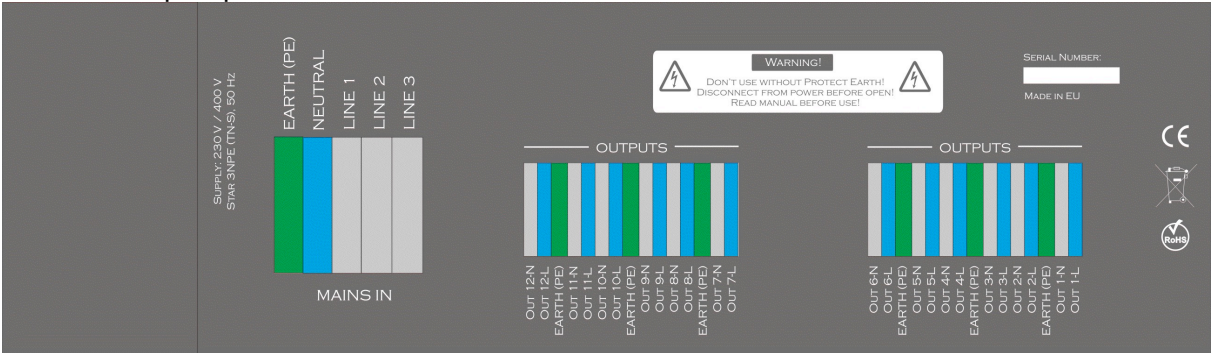


3.3.6 2x Socapex



3.4 Power Supply with screw-on terminal strip

Terminal strip, 3-phase + N + PE

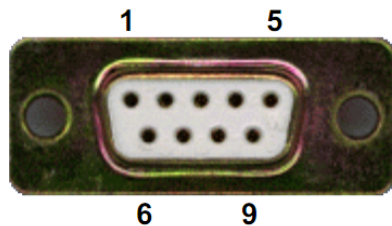


## 4. RCM - Recall Cue Mode - Connection on DB9

Cues (Memories) 1 through 4 may be recalled by dry closing contacts connected to the DB9 connector on the front side of the MIKAPACK30.

**ATTENTION:** do not apply any voltage to the DB9 contacts as these may damage the electronic circuits.

The connection and pin layout to the DB9 connector is as follows:



Pin1	Mem1
Pin2	Mem2
Pin3	Mem3
Pin4	Mem4
Pin5	Grand Zero (all channels are off)

Pin6-9 GND

To activate the RCM mode, just connect for a short time the circuit associated to Pin1 through 4 (these are corresponding to Mem1-4) to the ground (GND) pin. Now the dimmer enters to RCM mode. On the display you can see the activated memory number which now starts to fade in with the selected Fade In time preset in the preference section.

If you want to activate another memory just close the circuit (between Pin1-4 and GND) as described above and the actual memory starts to fade out with the selected Fade Out time.

After fade out, the new memory starts to fade in. To switch off the existing cue, just make a close the circuit between pin5 and GND (the actual memory starts to fade out with the selected Fade Out time).

In case DMX512 signals are present the highest value of incoming DMX signal shall control the signal if the HTP mode is enabled in the MEMORIES menu section.

By pressing the ESC button on the dimmer when the RCM mode is active the actual cue is immediately disabled and the dimmer goes back to the normal operation mode.

## 5. Menu Structure

### 5.1 MENU Structure

MIKAPACK dimmer has a rolling menu structure.



**Navigation buttons:**

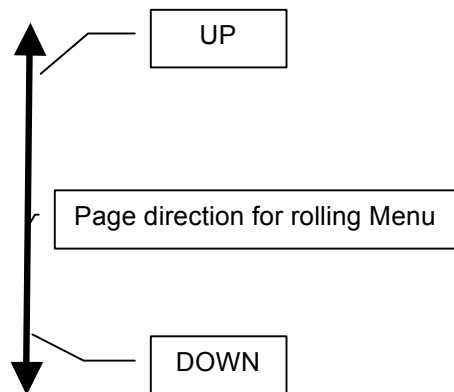
[Enter]: allows to go inside a chosen menu item, and the confirm the selections.

[Escape]: goes always one level to the top menu.

[Up] and [Down]: allows to page in the menus and to select the data items in each menu.

#### 5.1.1 Top Menu items:

1. Start Address
2. Test Dimmer
3. Chaser
4. Patch
5. Dimmer Law
6. Dimmer Preheat
7. Dimmer Maximum levels
8. Memories
9. If DMX Fails
10. Factory Defaults
11. Preferences



#### 5.1.2 Generalities

- To enter the Menu, press Enter before navigating.
- If a change is done inside the menus an asterix (\*) will indicate that you are doing modification(s); when pressed enter the asterix (\*) will disappear and you change(s) are saved.
- By starting up the MIKAPACK the software version is shown for a short.

## 5.2 Timeout display



### 5.2.1 Description

First line ADB MIKAPACK

Second line text changing (1s)

- DMX 007 (PATCHED if Patched)
- PREH SET; LAW SET, MAX SET

Second line only change if a preheat or/ and a law is assigned to a dimmer.



If more than one from above, every second the texts are changing.

### 5.2.2 Appears

After a start up the MIKAPACK dimmer will display the timeout display.  
Possibility that the display turn to black mode (off back-light) after 30 s – see Preference Menu.

## 5.3 Start Address

Press [Enter]; press [Up] or [Down] until

```
S T A R T   A T
D M X     0 0 1
```

Press [Enter]

```
S T A R T   A T
D M X     0 0 1
```

Press [Up] or [Down] to change the DMX address {1 – 512}.  
Press [Enter] to confirm the new address

Press at any moment [Escape] to undo the change.

If a patch was programmed previously START ADDRESS Menu will display:

```
P A T C H E D
E R A S E   ?
```

Press [Enter] to erase and entering a global address.  
Press at any moment [Escape] to undo the change.

**Factory default - DMX address 1**

## 5.4 Test Dimmer

Press [Enter]; press [Up] or [Down] until

```
T E S T
```

Press [Enter]

```
B L I N K I N G
```

Press [Up] or [Down] to select test mode

- Steady – dimmer will be steady on in test
- Blinking – dimmer will blink – 1s on / 1s off in test

Press [Enter]

```
D I M     1
V A L     7 0 %
```

Dimmer is at stage at chosen value  
 Press [Up] or [Down] to change the dimmer number {1 – 12}  
 Press [Enter] to confirm  
 Press [Up] or [Down] to change value {1 – FF} (**default value 70%**)  
 Press [Enter] to confirm  
 [Up] next dimmer on stage – same value  
 [Down] previous dimmer on stage – same value

Press at any moment [Escape] to exit the test function.  
 Re-entering Menu; values always at default value; 70%

**Note:** test function includes the dimmer assignments; dimmer laws, dimmer preheats and the dimmer maximum level.

## 5.5 Chaser

Press [Enter]; press [Up] or [Down] until

C H A S E R

Press [Enter]

S C A N N E R

Press [Up] or [Down] to select chaser

- Fixed 30
- Fixed 50
- Fixed FF
- Scanner 1
- Scanner 2
- Scanner X
- Build-up 1
- Build-up 2
- KnightRider

Pressing the [ENTER] the selected chaser starts to play.

C H A S E R  
 V A L 7 0 %

Press [Up] or [Down] to change level value {1 – FF} (**default value 70%**)  
 Press [Enter] to go back one level up to select different chaser.  
 Chaser will always disable the incoming DMX.

Press at any moment [Escape] to exit the chaser function.

## 5.6 Patch

Press [Enter]; press [Up] or [Down] until

P A T C H

Press [Enter]

D I M 1  
D M X 0 0 1

Press [Up] or [Down] to change the dimmer number {1 – 12}  
Press [Enter] to confirm  
Press [Up] or [Down] to change the dimmer number {1 – 512}  
Press [Enter] to confirm;  
Press [Up] or [Down] to change the dimmer number ....

Press at any moment [Escape] the dimmer ask back, ENABLE the PATCH function.  
Press [Enter] to enable, press [Escape] to disable. At both selections the edited parameters are stored into the E<sup>2</sup>PROM.

**Factory default - No patch – 1 to 1**

## 5.7 Dimmer Law

Press [Enter]; press [Up] or [Down] until

D I M L A W

Press [Enter]

D I M 1  
L A W L I N

Press [Up] or [Down] to change the dimmer number {1 – 12}  
Press [Enter] to confirm  
Press [Up] or [Down] to change the law {Lin}

1. linear rms voltage **Lin**
2. linear rms to 120 V **120V**
3. fluorescent lighting **Fluo**
4. square law **Sqr.**
5. TV **TV**
6. BBC **BBC**
7. non-dim (on at 15 %, off at 12 %) **OnOf**
8. Customer-defined law **Cust**

Press [Enter] to confirm;  
Press [Up] or [Down] to change the dimmer number ....

Press at any moment [Escape] to exit the dimmer law function.  
To setup the custom law = see preference menu

**Factory default - Lin**

## 5.8 Dimmer Preheat

Press [Enter]; press [Up] or [Down] until

D I M P R E H

Press [Enter]

D I M 1  
P R E H 0 0

Press [Up] or [Down] to change the dimmer number {1 – 12}  
 Press [Enter] to confirm  
 Press [Up] or [Down] to change level value {00 - FF}  
 Press [Enter] to confirm  
 Press [Up] or [Down] to change the dimmer number ....

Press at any moment [Escape] to exit the dimmer preheat function.  
**Factory default 00%** for all channels.

## 5.9 Dimmer Maximum Levels

Press [Enter]; press [Up] or [Down] until

D I M M A X

Press [Enter]

D I M 1  
M A X F F %

Press [Up] or [Down] to change the dimmer number {1 – 12}  
 Press [Enter] to confirm  
 Press [Up] or [Down] to change level value {00 - FF}  
 Output = input x level (eg. Input 240 V – level 90 % - Maximum output = 216 V)  
 Press [Enter] to confirm  
 Press [Up] or [Down] to change the dimmer number ....

Press at any moment [Escape] to exit the dimmer maximum levels function.  
**Factory default - FF**

## 5.10 Memories

The MIKAPACK has 16 Memories with fade in and fade out time.

Press [Enter]; press [Up] or [Down] until

M E M O R I E S

Press [Enter]

P L A Y

Press [Up] or [Down] to change

1. PLAY – allows to play memory
2. EDIT – allows to create a memory
3. RECORD – allows to record the input for the 12 channels
4. PRIORIRY     HTP (memory and DMX input)  
                     No DMX (Play memory disconnect DMX input)

### 5.10.1 PLAY

Press [Enter]

P L A Y    0 1

Press [Up] or [Down] to select the memory.

Press [Enter] to start playing the memory – fade in xx s (On the display FADE IN appears to inform that the dimmer just fade to the selected memory).

[Escape] will stop the playing (or fading) memory and fade back to DMX in xx s till the dimmer fade back to zero level, FADE OUT appears on the display.

(Time to fade in/out memories which marked now [xx s] see the preferences menu)

### 5.10.2 Edit

**If memory exists; no warning to overwrite**

Press [Enter]

E D I T    0 1

Press [Up] or [Down] to select the memory

Press [Enter] to edit the memory

D I M     1  
V A L    0 0 %

Press [Up] or [Down] to change the dimmer number {1 – 6}

Press [Enter] to confirm

Press [Up] or [Down] to change level value {00 - FF}

Press [Enter] to confirm;

Press [Up] or [Down] to change the dimmer number....

Press at any moment [Escape] to go to edit function.

### 5.10.3 Record DMX Input

**If memory exists; no warning to overwrite**

Press [Enter]

R E C 0 1

Press [Up] or [Down] to select the memory

Press [Enter] to record the memory (On the display appears done ... text)

Press at any moment [Escape] to go to the record DMX input function.

#### 5.10.4 PRIORITY

For all memories

Press [Enter]

P R I O R I T Y  
H T P

Press [Up] or [Down] to change

1. HTP
2. NO DMX

Press [Enter] to confirm selection.

Press at any moment [Escape] to go to priority function.

### 5.11 If DMX Fails

Press [Enter]; press [Up] or [Down] until

I F D M X  
F A I L S

Press [Enter]

K E E P

Press [Up] or [Down] to change

1. KEEP – last DMX values
2. FADE OUT – Wait 60s and fade out in 60s ( possibility to change in preferences menu)
3. MEMORY – Play memory

Press [Enter] to confirm selection

Press at any moment [Escape] to go to if dmx fails function.

#### 5.11.1 Memory

Memory will open submenu

M E M 0 1

Press [Up] or [Down] to select the memory

Press [Enter] to select the memory

Press at any moment [Escape] to go to the memory function .

**Default value: KEEP**

## 5.12 Factory Defaults

Press [Enter]; press [Up] or [Down] until

F A C T O R Y  
D E F A U L T S

Press [Enter]

C L E A R

Press [Up] or [Down] to change the dimmer number {CLEAR}

1. CLEAR – Factory default without deleting preferences and Memories
2. CLEAR MEM – Deleting All Memories
3. CLEAR ALL – Factory default with deleting preferences and Memories

Press [ENTER]

C L E A R  
C O N F I R M ?

Press [ENTER] to confirm Clear operation

Press at any moment [Escape] to go to the clear function.

### 5.12.1 Factory Defaults:

Global Address	1
Test Dimmer	Value 70%
Chaser	Value 70%
Patch	1 to 1
Dimmer Law	LIN – custom LIN
Dimmer Preheat	No Preheat (00%)
Dimmer Maximum levels	FF
IF DMX FAILS	KEEP ( FADE wait 60s fade 60s)
Memories	Fade out 5s – Fade in 5s – No HTP
Display	Timeout 30s - ON
Custom LAW	LIN

## 5.13 Preferences

Press [Enter]; press [Up] or [Down] until

P R E F E R E C

Press [Enter] [Enter] [Enter]  
3 times enter within 2s will open de preferences Menu

The menu allows to setup

1. Custom law
2. If DMX Fails time
3. Display on / off
4. Time fade memories

Preferences are only deleted by resetting to factory defaults – Clear ALL option.

### 5.13.1 Custom Law

Press [Up] or [Down] until

C U S L A W

Press [Enter]

D M X 0 0  
L A W 0 0

Press [Up] or [Down] to change the DMX VALUE {00 – 255}

Press [Enter] to confirm

Press [Up] or [Down] to change LAW VALUE {00 - FF}

Press [Enter] to confirm;

Press at any moment [Escape] to exit the custom law function.

**Factory default - LIN law**

### 5.13.2 If DMX Fails time

Time if keep is set in the IF DMX FAILS menu

Press [Up] or [Down] until

D E F I F  
D M X F A I L

Press [Enter]

F A D E 0 0 S  
W A I T 0 0 S

Press [Up] or [Down] to change the fade time {00 – 99}

Press [Enter] to confirm

Press [Up] or [Down] to change the wait time {00 – 99}

Press [Enter] to confirm

Press at any moment [Escape] to go to the main Menu.

**Factory Fade default – 60s**

**Factory Wait default – 60s**



### 5.13.3 Display on / off

Press [Up] or [Down] until

```
D I S P L A Y
O N / O F F
```

Press [Enter]

```
D I S P      O N
```

Press [Up] or [Down] to change

1. On
2. Off

If off, display will turn to black mode after time 30s (different time can be set inside this menu).

Press [Enter] to confirm

```
D I S P      O F F
T I M E      3 0
```

Press [Up] or [Down] to change the wait time {00 – 99}

Press [Enter] to confirm

Press at any moment [Escape] to go to the main Menu.

**Wait default – 30s**

**Display default ON**

### 5.13.4 Time fade memories

- For all memories
- Also time if used in IF DMX FAILS MENU

Press [Up] or [Down] until

```
D E F      M E M T
```

Press [Enter]

```
I N      0 0
O U T    0 0
```

Press [Up] or [Down] to change the IN time {00 – 99}

Press [Enter] to confirm

Press [Up] or [Down] to change the OUT time {00 – 99}

Press [Enter] to confirm

Press at any moment [Escape] to go to the main Menu.

**IN default – 5s**  
**OUT default – 5s**

## 6. Maintenance

### 6.1 Warning

Lethal voltages are used in this equipment. Refer servicing to trained personnel. Power must be disconnected before the cover is removed.

### 6.2 Fuses

The internal fuses are accessible by opening the MIKAPACK. Always disconnect the power before you open the dimmer unit or replace a fuse! Switch power off by means of the supply isolator, supply MCB or supply RCD. Then disconnect the supply plug.

Always use fuses of the same type, size, current rating, fusing value and fault current rating as the originals. Contact your supplier for spare parts.

### 6.3 List of Accessories and Spare Parts

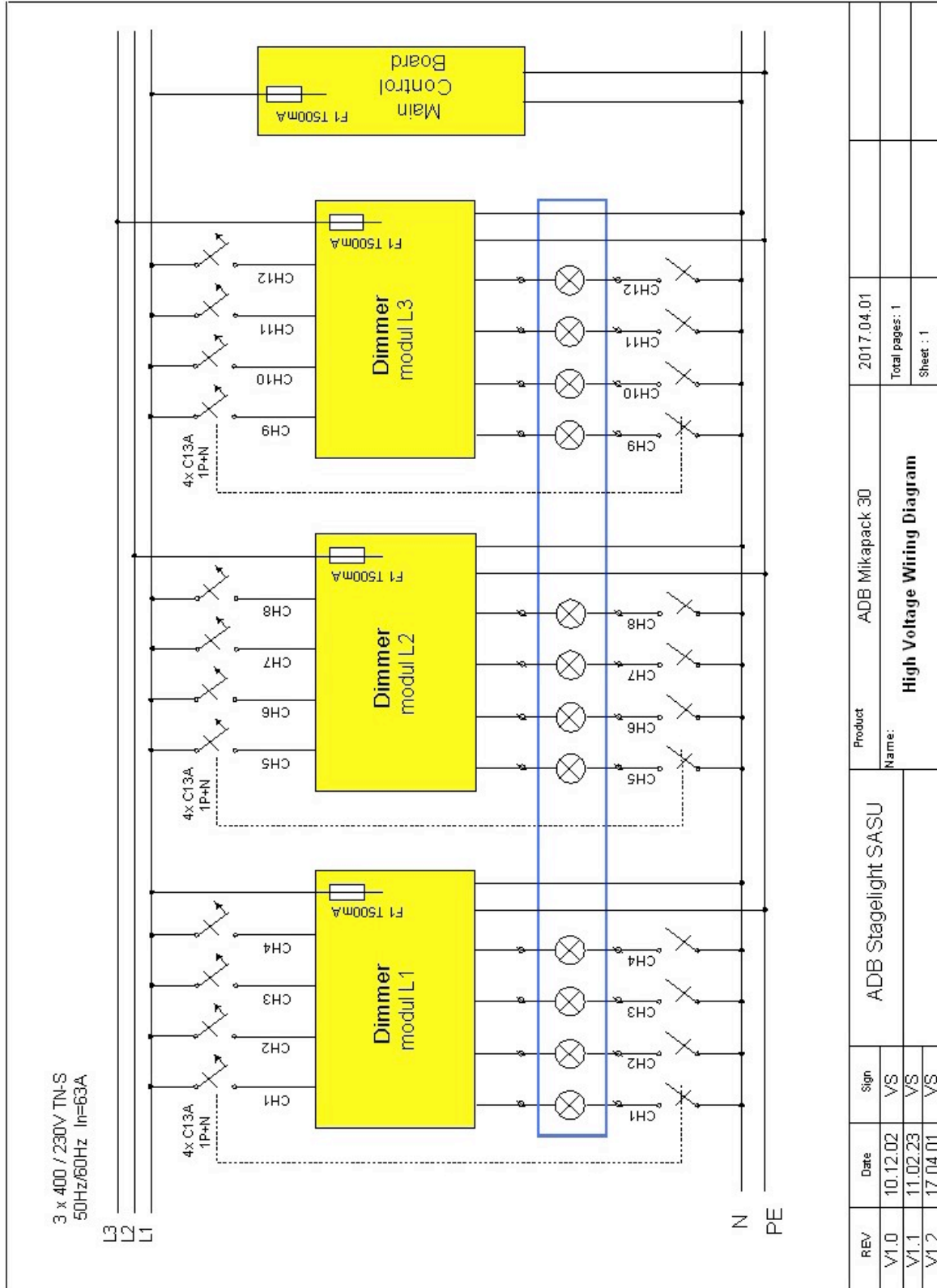
Always use original spare parts, do not use substitutes. The original components were selected to achieve the performance and reliability you expect of your equipment.

#### 6.3.1 Spare Parts List

Code	Description
5021.05.010	Thyristor board
5021.05.020	Control board
5021.05.030	Interface board
5021.04.040	DMX connector board
5021.04.050	ATMEL driver board
5021.04.060	IC main software
5021.04.070	DC/DC converter
5021.04.080	Line driver
5021.04.090	Optocoupler
5021.04.100	CEBEC socket
5021.04.110	SCHUKO socket
5021.04.120	SWISS socket
5021.04.130	UK socket
5021.04.140	CEE socket
5021.04.150	Circuit breaker
5021.05.160	Front handle
5021.05.170	Front plate

## 7. Wiring diagrams

### 7.1 High voltage wiring diagram

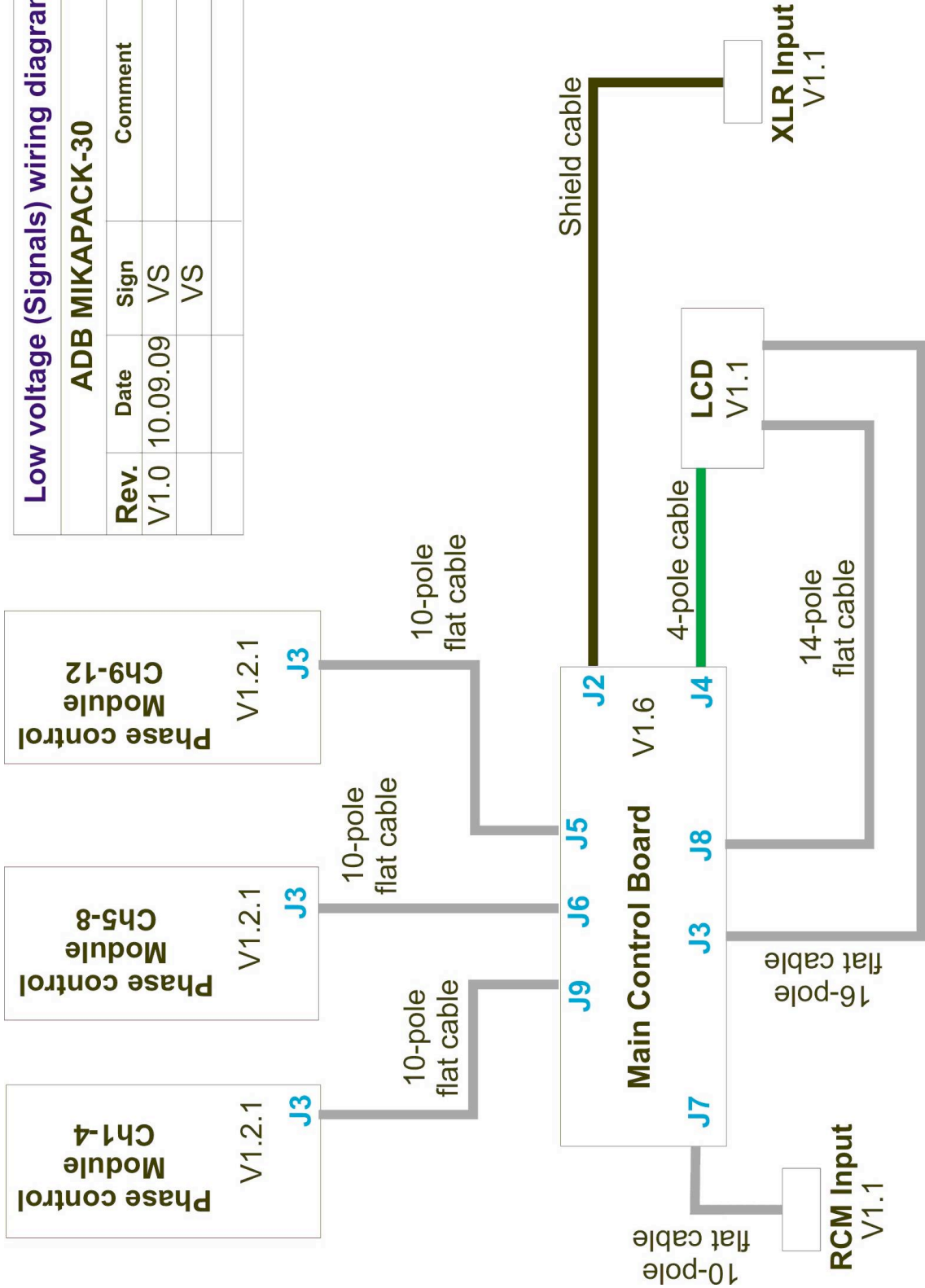


7.2 Low voltage wiring diagram

**Low voltage (Signals) wiring diagram**

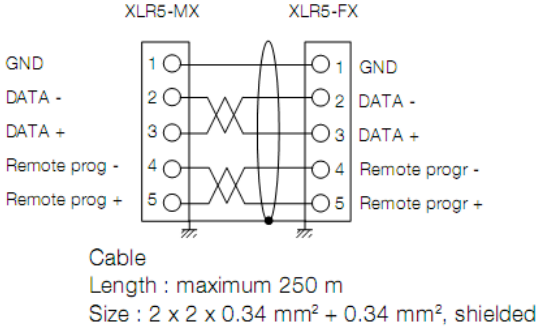
**ADB MIKAPACK-30**

Rev.	Date	Sign	Comment
V1.0	10.09.09	VS	
		VS	



## 8. Data Cable

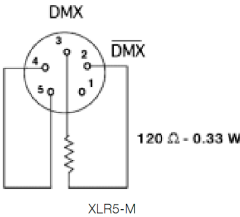
### 8.1 Standard DMX interconnection or extension cable



Standard DMX interconnection or extension cable

### 8.2 Termination resistor

The terminating resistor must be placed on the output connector of the last unit on the DMX line.



### 8.3 DMX Data Connections



XLR5 - F

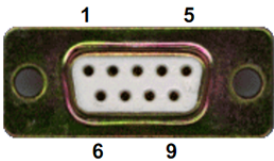
Pin	Signal
1	GND
2	DMX data -
3	DMX data +
4	Spare / remote programming -
5	Spare / remote programming +



XLR5 - M

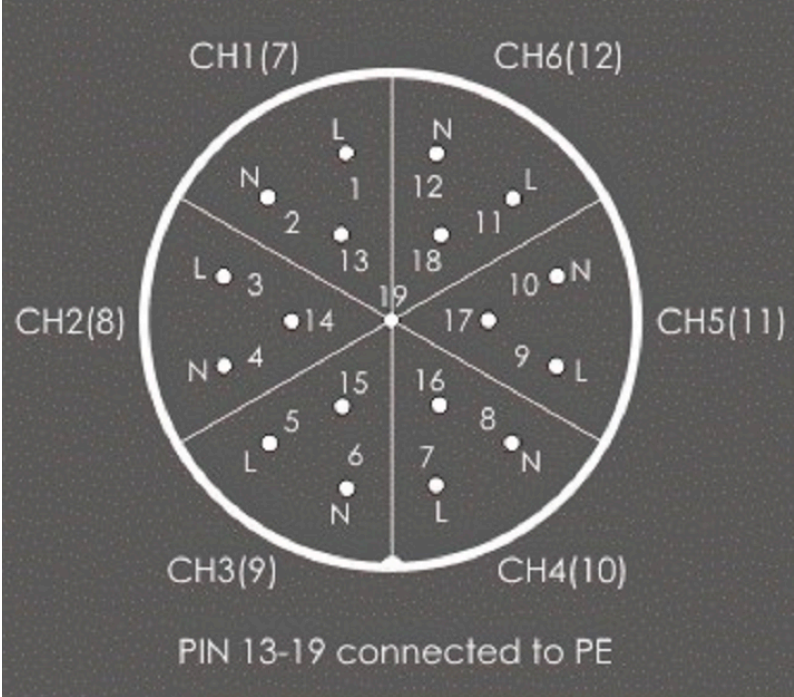
Pin	Signal
1	GND
2	DMX data -
3	DMX data +
4	Spare / remote programming -
5	Spare / remote programming +

### 8.4 RCM – Connection

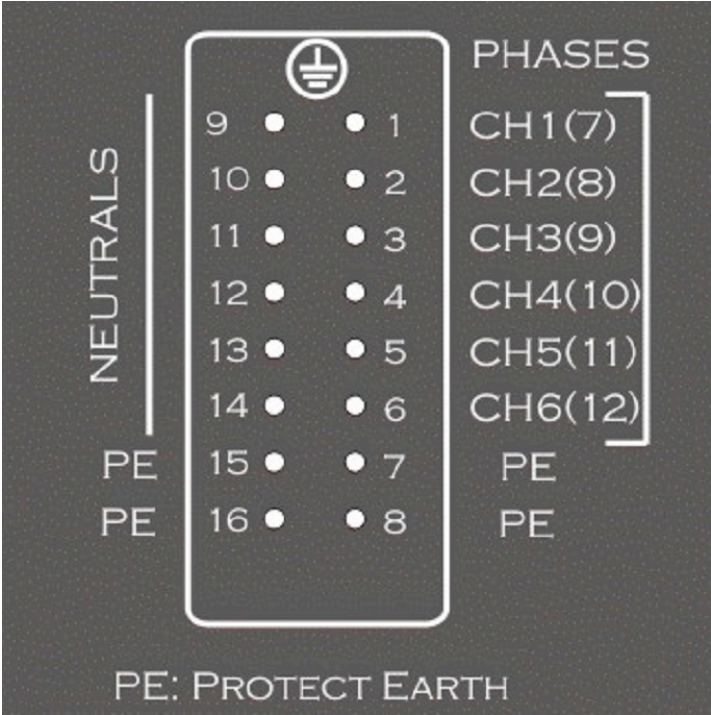


Pin1	Mem1
Pin2	Mem2
Pin3	Mem3
Pin4	Mem4
Pin5	GrandZero (all channels are off)
Pin6-9	GND

Socapex – 19 connection



Harting - 16 connection









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