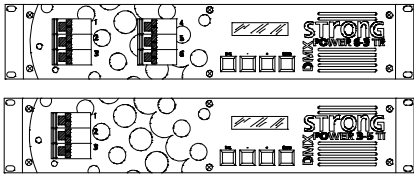


POWER 6-3/TR DMX
POWER 3-5/TI DMX



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1. General Description

The digital dimmer family: POWER 6-3 TR/DMX and POWER 3-5 TI/DMX have been developed for working in the most hard conditions in fix or movil installations.

In both cases, can be manufactured in two version: one for 19" rack and

other transportable for touring applications.

At same time ,can be produced with two types of power connectors: Terminal and Harting.

The power unit Power 6-3 TR/DMX has 6x3 kW channels and Power 3-5 TI/DMX has 3x5 kW channels.

2. Characteristics

- Analog input signal 0-10V d.c. or digital input through DMX-512 (1990)

- Can work in stand alone selecting one of the 4 chasers included as standard.

- Four types of response curves can be selected for each one of the channels: lineal with voltage, lineal with light, fluorescent and ON/OFF.

- Test function for checking the signal and power installation.

- Automatic turn on of the fan depending on the internal temperature.

- Automatic control of the mains frequency

- Overvoltage protection

- Frontal LCD display for displaying all informations that supply the unit according with the different events that can happen and for programming all the functions.

- Independent protection per channel through 2 pole circuit breaker phase-neutral

2.1 Technical Data

	POWER 6-3TR	POWER 3-5TI
Power supply	220v 50Hz monophase / triphase 380v 50Hz triphase	
Minimum charge per channel	100W	
Maximum charge per channel	3000W	5000W
Maximum total charge	18.000W	15.000W
Rise time	250µsg	
Circuit breaker	16Amp	25Amp
Analog signal load	1 mA per channel	
Analog input connector	Sub-D 9 poles	
DMX 512 input connector	XLR-5 poles	
Front panel measurements	482x88 mm	
Window to fix	444x88 mm	
Depth	390 mm	
Net weigth	10Kg	9Kg

Like a general protection it's convenient to use a circuit breaker of 4 poles 32 Amp., better with curve type D, for conection 380V triphase and a 4 poles 63 Amp. Curve D too, for 220V triphase conection.

Regarding the GFI (Differential-current tripping device) in first case it will be used a 4 poles 40 Amp. and tripping current of 0.03 Amp. and in second case a 4 poles 63 Amp. and tripping current of 0.03Amp.

3. Measurements

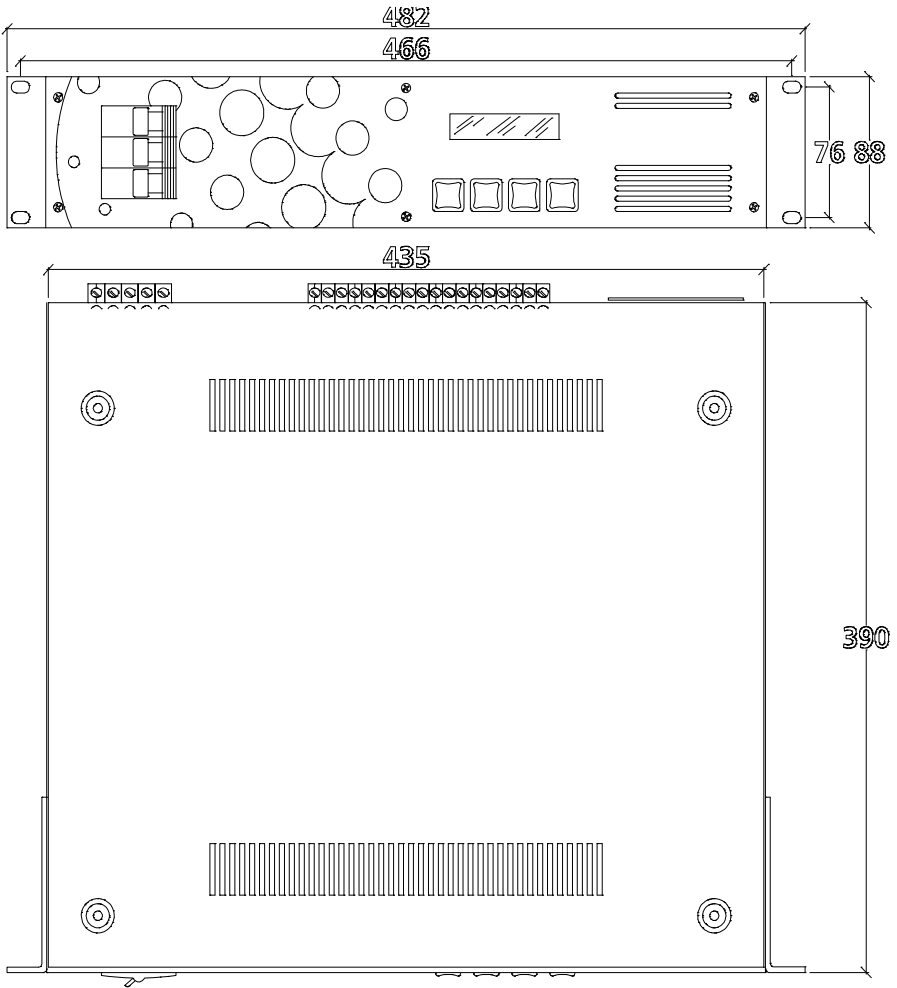


Fig.- 1

4. Installation

The power units Power 6-3 TR/DMX and Power 3-5 TR/DMX can be mounted in a rack (fig 2A) or supported on any plain surface, basically with the transportable version (fig 2B). In both cases, you have to take in consideration that the zone must be well ventilated for

evacuating the heat that is produced during the working.

Never should be closed the holes for letting the entrance of the air (in front panel, upper cover and lower cover) neither the output holes (fan).

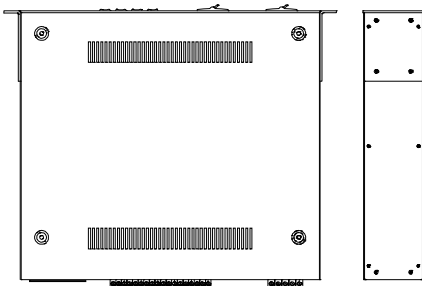


Fig.- 2A

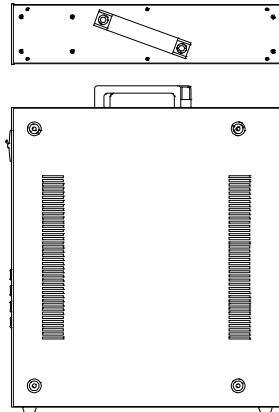


Fig.- 2B

5.Connections

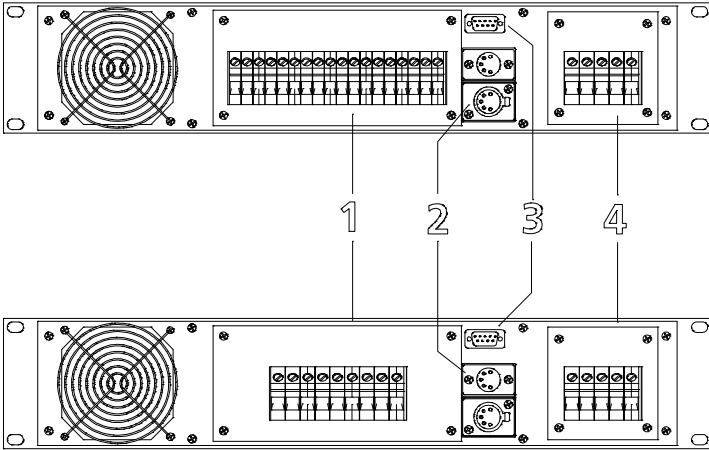


Fig.- 3 Terminal outputs

- 1.- Terminal outputs
- 2.- Input/output DMX512

- 3.- Analog input signal
- 4.- Mains supply terminals

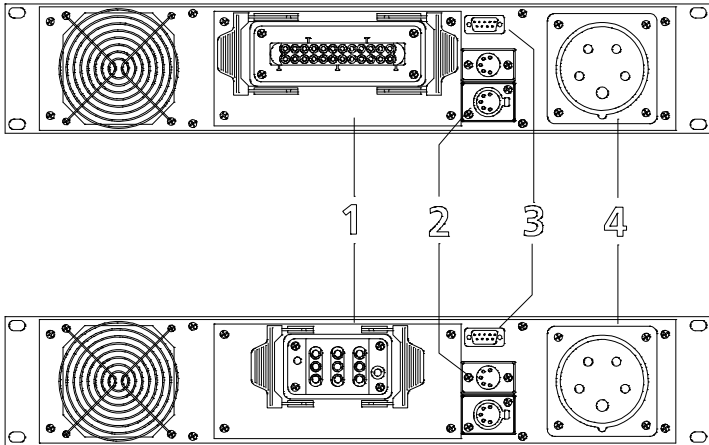


Fig.- 4 Harting outputs

- 1.- Harting to loads
- 2.- Input/Output DMX 512

- 3.- Analog input
- 4.- Cetac for mains input

5.1 Connections to power mains

The power unit can be connected to a triphase connection with neutral: R, S, T, N and earth with 380V between phases and 220V between phase and neutral, or a 220V monophase connection, having in this last case to connect the three inputs: R, S, T to the phase. See fig. 5 y 6

The power unit is protected against any bad connection as can be to supply 380V between its neutral and phase. In this case, the power unit don't start up and will display the

message OVER VOLTAGE during a few seconds and then disappear.

In this case, proceed to connect the power unit in the right way and turn it on again.

NOTE: It's very important for the right working of the units, to have a good earth connection. In other case, it could have voltage differences that could damage the units.

380V TRIPHASE SUPPLY

A) TRIPHASE CONNECTION:

Mains supply: $V_{RS} = V_{RT} = V_{ST} = 380V$
 $V_{RN} = V_{SN} = V_{TN} = 220$

MAINS SUPPLY	POWER UNIT
R	R
S	S
T	T
N	N

B) MONOPHASE CONNECTION:

Mains supply: $V_{RS} = V_{RT} = V_{ST} = 380V$
 $V_{RN} = V_{SN} = V_{TN} = 220$

MAINS SUPPLY	POWER UNIT
R	R
S	S
T	T
N	N

Note: (Can be used the phases S and T too)

220V TRIPHASE SUPPLY

A) TRIPHASE CONNECTION

Mains supply: $V_{RS} = V_{ST} = V_{RT} = 220V$
 $V_{RN} = V_{SN} = V_{TN} = 120V$

MAINS SUPPLY	POWER UNIT
R	R
S	S
T	T
N	N

Note: (Also can be shortcircuited the terminals RT, or ST of the power unit)

B) MONOPHASE CONNECTION

Mains supply: $V_{RS} = V_{ST} = V_{RT} = 220V$
 $V_{RN} = V_{SN} = V_{TN} = 120V$

MAINS SUPPLY	POWER UNIT
R	R
S	S
T	T
N	N

Note: (Can be used the phases R, T or S, T too)

5.2. DMX signal connection

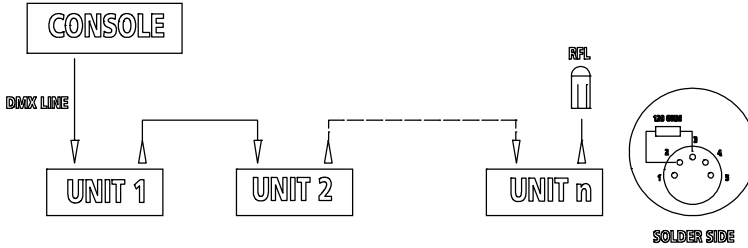


Figure 3

The cables used should be braided pair and shielded, low capacity, with a type 24AWG (0.2047 mm²) minimum calibre and an impedance of 120 Ohms. Please remember that the type of cable used significantly conditions any problems that may arise subsequently due to parasites coming through on the line. Similarly, DO NOT USE shielded cables of the type usually used for connecting microphones.

The cables should be connected in such a way that pin 1 of the male connector at one end coincides with pin 1 of the female at the other, and so on respectively for pins 2 and 3: pins 4 and 5 are not used.

The screen connected to pin 1 should NOT be in contact with the casing of the connector.

The connection should be made exactly as shown in Figure 3. You will see that a resistance of 120 Ohms ¼ W has been installed at the end of the line between pins 2 and 3. This corresponds to the end-of-line connector supplied with all projectors.

A maximum of 32 projectors may be linked up to a single line without using an amplifier, and the maximum cable length as far as the last projector is 1 Km, although it is advisable to use an amplifier for cables of over 500 metres.

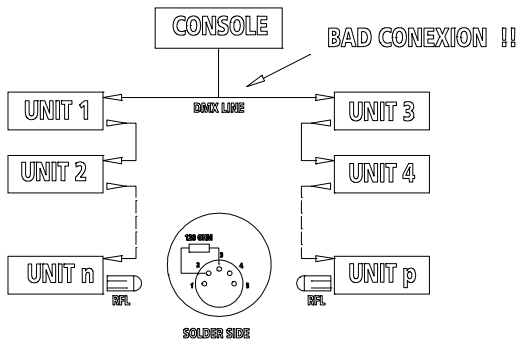


Figure 4

The connection shown in Figure 4 is **INCORRECT** : if an installation that divides into several branches is required, **SPLITTERS** must be used.

These are elements which distribute and amplify a single signal into several identical ones along different lines (see Figure 5).

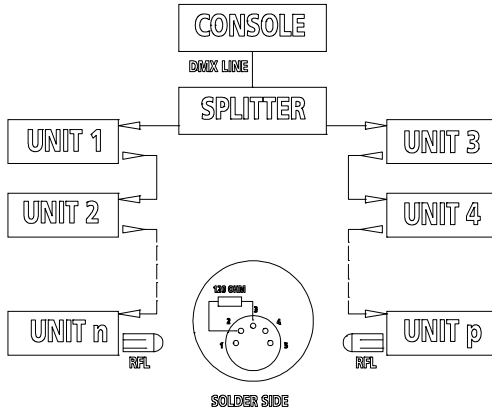


Figure 5

XLR 5-pin type connectors should be used. The signal from the command should be connected to the DMX -IN input, and the outgoing signal to

another projector to DMX-OUT. In the last projector, the end-of-line resistance should be connected to this output.

6. Programming Power 6-3 TR/DMX

Power 3-5 TI/DMX

1- Connect the unit to mains.

Following message appears:

```
POWER 6-3 TR
V.1.01
```

2- Press EXIT for access to Main Menu.

```
1:00      2:00
3:00
```

The two digits next to each channel give information about the actual level received

```
6-3 TR:
INPUT
```

3- Press the key "+" several times until select the CONFIG option.

```
CONFIG:
*CHANNEL
```

4- Press STORE.

5- Config the way of working of each channel of the unit:

A) With + and – keys select the curve you want use (the number of the config channel will appear on the left side of the display).

Press STORE

If we choose LINT the output response will be lineal according with the input voltage.

If we choose ON/OFF the output will be 0V whether the input voltage is under 50% of the input voltage and 220V whether the input is over the 50%.

If we choose LINL the output will be lineal according with the light.

If we choose FLUO we can connect a flourescent lamp like load, with the corresponding interface.

```
1: *LINT
ON-OFF
```

B) With the + key choose between DMX (digital input) and ANALOG (analog input) for this channel.Press STORE

```
1: MODO
   * DMX
```

C) If you choose digital mode, select the DMX channel that's going to use for controlling the output, by pressing the + and – keys.Then press STORE

```
1: DMX CHANNEL
   001
```

D) Select the minimum value for the output when the input is at lower end, pressing the + and – keys.That's used for preheating the lamps and improving its the reaction time.Press STORE

```
1: MIN:  00
   MAX:  FF
```

E) Select the maximum value for the output pressing + and -.That's used for increasing the lamp life.
Press STORE for storing the information of this channel and make the same for the rest of channels.

```
1: MIN:  00
   MAX:  FF
```

6- Press the + key several times until you reach the TEST option and press STORE.

```
6-3TR:
INPUT
```

7- Press STORE for verifying the mains frequency.

```
TEST:
*FREQ
```

8- Press ESC for returning to TEST menu

```
FREQ:
  50Hz
```

9- Press + key until select the MANUAL menu and press STORE.

```
TEST:
FREQ
```

10-With + and – keys choose the channel to test and press STORE.
Change the level of output pressing + and -.After finishing the test press EXIT.

```
CHANNEL:  1
DIRECT:    00
```

11- If you want to check the digital DMX input select DMX and press STORE.

```
TEST:
FREQ
```

12- On screen will appear the number of digital channels received on the power unit. That value must not change.

```
PACK DMX
      256
```

If the DMX input is not connected or detects some kind of error in the information will appear NO DETECT message.

```
PACK DMX
NO DETECT
```

Press EXIT several times for returning to main menu.

13- If you want to make a chase with the outputs, select the CONFIG menu pressing + key several times and then press STORE.

```
6-3TR:
INPUT
```

14- Choose the CHASE menu pressing the + several times, then press STORE.

```
CONFIG:
CHANNEL
```

15- Select the number of chase you want to launch (4 options) pressing + and – and press STORE. If you want to stop the chase select OFF and then press STORE.

```
NUM CHASE:
  1
```

16- Select the timer and fader times pressing + and – and STORE. These times must be between 3:59:9 and 0:00:0. When finishing press EXIT for returning to main menu.

```
TIMER:    0 : **
. * 
```

17- For blocking the keys select CONFIG pressing the + key several times and then STORE. That function it's useful for avoiding that someone not involved with the power unit could change the configuration.

```
6-3TR:
INPUT
```

18- Choose BLK pressing + key several times and then STORE.

```
CONFIG:
CHANNEL
```

19- For having the keys active again, press all keys at same time.

```
B  1:00    2:00
   3:00
```

20- For resetting the power unit press EXIT and STORE at same time while you turn on the power unit. All the information about channels, chasers, times etc will be erased.

```
SYSTEM RESET
RESTART 100%
```

7.Maintenance

7.1 Regular cleaning

To prevent the build-up of dust and dirt which may impair the proper operation of the equipment, this should be cleaned regularly.

For cleaning,use a soft,slightly damp cloth (if the equipment is very dirty, apply a little liquid detergent to the cloth)

WARNING!: Do not use solvents or products containing alcohol.Make sure that no liquids get inside the equipment.

8.- Most common problems

Problems	Usual Cause	Solution
Unit don't start	No current reaching equipment	Check mains connection
Power unit don't give response in some channels	Addressing problem	Make the addressing of channels in free addresses See programming section, point 6
	Bad installation in DMX line	Check type of cable used, connections, connectors, installation and 120 ohm terminator resistor
The unit don't work in autonomous mode	No chaser selected	See section 6, Programming and way of working
	No FADER and TIMER selected	See section 6, Programming and way of working

If the problem persists despite these measures, please contact with FRESNEL
S.A.s Technical Service
Telf 34 93 210 73 51
Telf 34 93 219 94 60
Fax 34 93 213 76 61



FRESNEL S.A.

DC-01

STATEMENT OF COMPLIANCE

FECHA: 1/1/98

We hereby state that the product:

Brand: **STRONG**

Model: **POWER 6-3/TR DMX**
POWER 3-5/TI DMX

Year of construction: **2001**

Conforms to directive 73/23 in respect of the safety requirements for material intended for use within specific voltage limits, and to directive 89/336 in respect of the electromagnetic compatibility of equipment, systems and installations.

Sole administrator

Angel Torrecillas Redón

Barcelona, January, 1st 2001

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