

DIMMERPACK DDE Actor



ACTOR DDE

USER'S MANUAL

Introduction

The New DDE Actor is of compact and robust construction using DMX-512 (1990) and analogue technology. It combines high quality and reliability and it is offered at a very competitive price. On the front panel of the dimmer there are preset sliders and master control. The units are designed for 19" rack mounting either on fixed installations or on touring racks. The dimmer packs can be controlled with analogue input 0/+10V or with DMX-512 (1990). The user has the capability of selecting whether the dimmer will hold or blackout the last DMX-512 data in case of failure of serial connection. The unit has twelve factory set chasers with capability of selecting the dimmer level and the speed. The user can also select one of the three waveforms (LAW) for each channel and at the same time can set Preheat Levels and Soft Start time for each channel, using the keyboard and the display mounted on the front panel. The keyboard is also used to select the DMX-512 start address, while the display shows the correct or fault DMX signal condition. The power supply is connected on a 6-pin plus ground connector. The dimmer is supplied with Schuko outlet sockets.

AVAB-CAC would like to thank you for choosing the DDE Actor and assures you that this is an amazing tool for lighting control applications. We believe that using this dimmer will be very exciting for you.

For safe and correct operation, please read the instruction manual very carefully, before using this dimmer.

AVAB-CAC

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Precautions and Operation Notes

Introduction

- Please, read this instruction manual very carefully.
- In case that something is not clear enough in this manual, please contact your local supplier.
- The dimmer installation should be made by a qualified person.

Before Installation

Attention: The dimmer should be placed in a dry location with low levels of humidity and ambient temperature below 35°C.

- Decide on the installation location.
- Make sure that the supply cable is connected to a mains switch and the appropriate circuit breaker, according to the total dimmer load.
- Check that the mains switch of the electrical distribution board is set at the OFF position.

Installation

- In case that you have any doubt about the wiring connections or the operating instructions of this device, please contact your supplier or a qualified person.
- This is a Class-I dimmer and should be grounded (earth wire).
- No matter where the dimmer is located, make sure that all the air cooling openings are free to let the air flow inside the device.
- Do not supply this dimmer with only one phase. The device is designed to operate under three phase power supply.
- The area where the dimmer is located should never get wet.
- AVAB-CAC is not responsible for any accident or damage caused by incorrect installation or improper use of the equipment.

After Installation and Power Supply Connection

- Before using the dimmer for the first time, make sure that the dimmer is installed and connected properly.
- Turn on the power.
- Do not use wet clothes to clean the dimmer during operation.
- To avoid danger, do not put flammable material near the dimmer.
- Do not use water to clean the dimmer.
- Do not try to open the dimmer box. There is danger of electric-shock.
- Do not try to repair the dimmer yourself by opening the dimmer box because there is danger of electric-shock and also because there are no extra parts or materials that you can replace. The service should always be performed by an authorized person.

Electrical Installation.

The electrical supply connection should always be made by a specialist.

Attention: The power supply cable of the dimmer must **ALWAYS** have a mains switch and the appropriate circuit breaker (depending on the maximum power consumption of the dimmer).

Operating voltage.

The operating voltage for DDE Actor dimmer is the following:

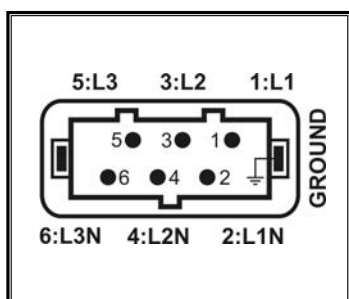
Three phase Delta : 230 V ~ 3 / PE / 50 Hz

Three phase Star : 400 / 230 V ~ 3 / N / PE / 50 Hz

Single phase : 230 V ~ / N / PE / 50 Hz

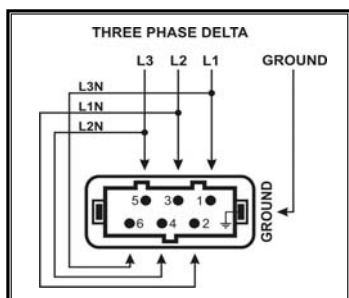
Power supply connections.

The DDE Actor dimmer is supplied with a 6-pin plus ground connector.



The figure on the left presents the 6 pin connector (rear-side view of dimmerpack) and the connections of each pin.

The installer can supply the dimmerpack in the following three ways.

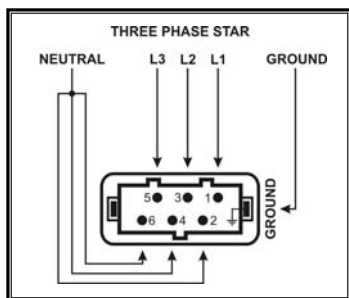


1) Three phase delta power supply.

Power supply : 230V~ 3 + PE (Protective Earth) / 50Hz.

This way of supply doesn't demand connection to the Neutral. Instead of the Neutral, each phase uses as a Neutral, another phase. For phase 1 the Neutral is phase 2, for phase 2 the Neutral is phase 3 and for phase 3 the neutral is phase 1.

The connection should be effected as shown in the left drawing. The appropriate power supply cable should be of 7 wires, each wire 6mm². Three wires are used to connect the "phase", three wires to connect the "neutral" and one wire to connect the "ground".

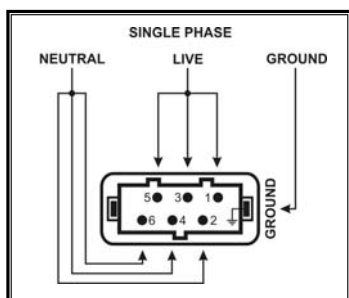


2) Three phase star power supply.

Power supply : 400 / 230V~ 3 + Neutral + PE (Protective Earth) / 50Hz.

The connection should be effected as shown in the left drawing.

The appropriate power supply cable should be of 7 wires, each wire 6mm². Three wires are used to connect the "phase", three wires to connect the "neutral" and one wire to connect the "ground".



2) Single phase power supply.

Power supply : 230V~ + Neutral + PE (Protective Earth) / 50Hz.

The connection should be effected as shown in the drawing.

The appropriate power supply cable should be of 7 wires, each wire 6mm². Three wires are used to connect the "phase", three wires to connect the "neutral" and one wire to connect the "ground"

Maximum Power Consumption.

A dimmer has maximum power consumption when all channels are driven under maximum load.

Max. power consumption : **22.101 W (7.367W / phase) (\approx 32 A / phase)**

Load connection. Introduction.

The DDE Actor is equipped with 6 double output schuko sockets (one for each channel) where the loads are connected.

The load connection should always be made by a specialist.

Attention: Each channel load should be connected to the dimmer separately. More particularly, the phase, the neutral and the ground of each channel load should be connected to the dimmer's socket. Do not use common neutral wire that ends to the distribution board.

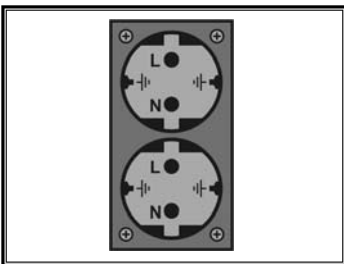
The DDE Actor has 16A 2 pole MCB on every output channel to protect the channels from short circuit or overload.

Load types.

The load types that can be connected to the DDE Actor dimmer are:

- Resistive and inductive loads.
- Incandescent lamps.
- Iron core transformers to supply low voltage lamps (e.g.halogen).

Outlet sockets.



The figure on the left presents the twin schuko socket. (Rear-side view of dimmerpack).

Distribution of the three phase power supply.

The distribution of the three phase power supply in the DDE Actor dimmer is as follows:

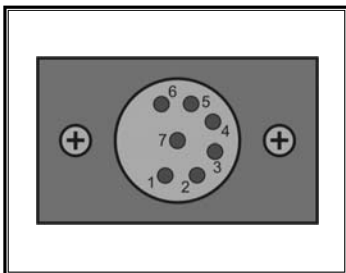
- Phase 1: channels 1 and 2.
- Phase 2: channels 3 and 4
- Phase 3: channels 5 and 6.

Dimming Control Introduction

This chapter presents the different ways of controlling the dimmer. These include the analogue input signal of 0-10V for each channel, the serial digital control signal DMX-512, the use of the build-in sliders with master control placed at the front side of the dimmer and the use of the menu.

The channel level can be controlled in all the above ways at the same time depending on the dimmer. The final channel output level is the highest control level deriving either from the analogue input, the digital input or the build-in slider.

Analogue Control.

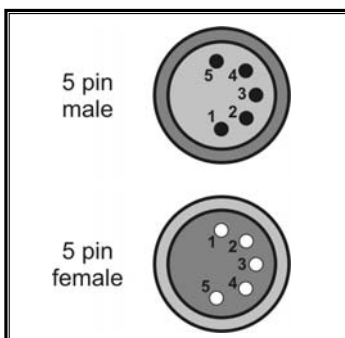


At the front side of the DDE Actor dimmer there is a 7pin male plug XLR which is used to control the dimmer by an analogue control desk (0/+10V).

The scheme on the left shows the 7pin male plug XLR connector. The electrical connections is as follows:

Pin 1:	Analogue Input 1
Pin 2:	Analogue Input 2
Pin 3:	Analogue Input 3
Pin 4:	Analogue Input 4
Pin 5:	Analogue Input 5
Pin 6:	Analogue Input 6
Pin 7:	0 V (Common)

Digital Control.



For digital control, the DDE Actor dimmer uses the DMX-512 protocol (1990). This DMX-512 control signal is supplied to the dimmer from a male 5-pole XLR plug and goes out from a female socket of similar type to supply the next unit. Both socket and plug are placed at the front side of the dimmer.

The output DMX-512 signal is amplified by an integrated amplifier (repeater) in the DDE Actor dimmer, allowing the user to connect an endless number of dimmers to the same control signal, without signal loss.

The schemes on the left site the shows the pin discription of the 5-pole male and female XLR input plug with pin numbering. The electrical connections of these plugs are listed below:

5-pin XLR:	Pin 1	: Common (0V)
	Pin 2	: Negative signal (data -)
	Pin 3	: Positive signal (data +)
	Pin 4, 5	: Not used

For DMX-512 start address selection please refer to a following chapter.

On-board Control Panel.

The dimmer control can also be realized from the on-board control panel. This panel consists of 6 channel sliders and 1 master slider for the dimmer stand-alone operation. By using this panel, there is no need for an external control desk.

Automatic power control.

The DDE Actor dimmer apart from the cooling fan that the power circuits they have, they also have an automatic power control system which is activated whenever the dimmer temperature reaches high levels.

In this case, the dimmer automatically reduces the output power (by reducing the channel light outputs), maintaining by this way the temperature of the power circuits in safe levels.

When the automatic power control is activated the display starts flashing showing the temperature of the power circuits.

Factory Chasers.

Indication of Factory Chasers.



Indication of Factory Chaser 1 activation.



Indication of selecting another speed rate from the current which is 08.



Indication of selecting another dimmer (lighting) level from the current which is FULL.



Indication of selecting another dimmer (lighting) level from the current which is 75%.

The DDE Actor dimmer has 12 chasers pre-programmed by the manufacturer. These are called Factory Chasers. The user can activate or deactivate a chaser by pushing a button and can set the speed rate and the lighting level (dimmer) using the push buttons mounted on the front panel of the dimmer.

To activate a chaser:

- Press the “CHASER” button.

The display indicates that the chaser 1 is activated, as shown in the left picture. The “F.C.” means Factory Chaser and the number “01” is the number of the activated chaser.

(Note: The chaser that is activated is not necessarily the chaser 1. This depends on which chaser was operating last).

To activate another chaser:

- Press the buttons “-” or “+”.

Each time you press the “-” or “+” buttons you select the previous or the next chaser accordingly from the one that was operating last. The display always indicates the chaser that you select and operate each time.

To set another rate of speed to a chaser:

- Press the “MENU” button.

The display shows the indication of the left picture. The letter “r” in the middle indicates the rate of speed, while the two digits on the right of the letter “r” indicate the current value of the speed rate of the chaser.

(Note: The value of the speed rate is not necessarily 8. This depends on the value of the speed rate that the lastly operated chaser had).

- Press the button “-” or “+” to set another speed rate.

The values of the speed rate range from 1 (slow) to 16 (fast).

To set another lighting level (dimmer) to a chaser:

- Press the “MENU” button.

The display shows the picture on the left. The letter “d” in the middle indicates the dimmer (lighting) level, while the letters “FL” on the right indicate that the lighting level is at FULL.

(Note: Instead of the indication “FL” the display might show a two digit number which is the lighting level expressed as a percentage. This depends on the lighting level that the lastly operated chaser had).

- Press the button “-” or “+” to select another dimmer (lighting) level.

To deactivate a chaser:

- Press the “CHASER” button.

The chaser stops operating and the display shows the indication of the DMX-512 start address.

Useful Notes.

While the chaser is in operation you can press the “MENU” button as many times as necessary in order to move to the menu you want and change any settings you like.

When a chaser is deactivated then the chaser number, the value of the speed rate and the dimmer (lighting) level of this chaser are stored in the dimmer, so that when this chaser is reactivated it has the same speed rate and dimmer (lighting) level.

This information remains in the dimmer even in case that the power supply is cut off.

The chaser can operate in parallel with the digital input DMX-512, the analogue input and also with the build-in control panel.

Please note that when the chaser is in operation you cannot make any other adjustments. For example, you cannot change the DMX-512 start address or set a Preheat Level to a channel etc.

When the power supply of the dimmer is cut off and the chaser is in operation, then when the dimmer turns on again the chaser will be automatically activated.

Table of the 12 Factory Chasers of the DDE Actor

Factory Chase 1							Factory Chase 2							Factory Chase 3							Factory Chase 4						
C1	C2	C3	C4	C5	C6		C1	C2	C3	C4	C5	C6		C1	C2	C3	C4	C5	C6		C1	C2	C3	C4	C5	C6	
1	●	○	○	○	○	○	1	○	○	○	○	○	●	1	●	○	○	○	○	○	1	●	○	○	○	○	○
2	○	●	○	○	○	○	2	○	○	○	○	●	○	2	○	●	○	○	○	○	2	●	●	○	○	○	○
3	○	○	●	○	○	○	3	○	○	○	●	○	○	3	○	○	●	○	○	○	3	●	●	●	○	○	○
4	○	○	○	●	○	○	4	○	○	●	○	○	○	4	○	○	○	●	○	○	4	●	●	●	●	○	○
5	○	○	○	○	●	○	5	○	●	○	○	○	○	5	○	○	○	○	●	○	5	●	●	●	●	●	○
6	○	○	○	○	○	●	6	●	○	○	○	○	○	6	○	○	○	○	○	●	6	●	●	●	●	●	●
							Factory Chase 9							Factory Chase 6							Factory Chase 11						
							C1	C2	C3	C4	C5	C6		C1	C2	C3	C4	C5	C6		C1	C2	C3	C4	C5	C6	
							1	○	○	●	●	○	○	1	○	○	●	○	○	●	1	○	○	○	○	○	●
							2	○	○	●	●	●	○	2	○	○	○	○	○	○	2	○	○	○	○	○	○
							3	○	○	○	○	○	○	3	○	○	○	○	○	○	3	○	○	○	○	○	○
							4	○	○	○	○	○	○	4	○	○	○	○	○	○	4	○	○	○	○	○	○
							5	○	○	○	○	○	○	5	○	○	○	○	○	○	5	○	○	○	○	○	○
							Factory Chase 8							Factory Chase 10							Factory Chase 12						
							C1	C2	C3	C4	C5	C6		C1	C2	C3	C4	C5	C6		C1	C2	C3	C4	C5	C6	
							1	○	○	●	●	○	○	1	○	○	○	○	○	○	1	○	○	○	○	○	○
							2	○	○	○	○	○	○	2	○	○	○	○	○	○	2	○	○	○	○	○	○
							3	○	○	○	○	○	○	3	○	○	○	○	○	○	3	○	○	○	○	○	○

Dimmer Programming. Introduction.

This chapter presents the DDE Actor dimmer programming and adjustments that you can make according to your needs.

The dimmer adjustments you can make are the following:

- Programming of DMX-512 Start Address.
- Programming of waveforms (Law) for each dimmer channel.
- Programming of Preheat Level for each dimmer channel.
- Programming of Soft Start for each channel.
- Programming of dimmer response in case of DMX-512 signal loss.

The dimmer adjustments are stored in the dimmer and do not change unless you decide to make any further changes.

During the programming, the dimmer operates normally. In other words, any adjustments you make in the digital DMX-512 input, the analogue input or the control panel are shown in the dimmer outputs.

You should note that this programming is not necessary for the dimmer operation. The dimmer is provided to you with pre-programmed settings and is ready to use.

The default settings of these adjustments are presented in the following chapters.

Attention: No programming can take place if the chaser is activated. In order to do any programming, you should first deactivate the chaser.

Indication of DMX-512 signal condition.



Indication of correct DMX-512 start address "001".



Indication of incorrect or missing DMX-512 signal.

The indication of DMX-512 signal condition is the permanent display indication when the dimmer is not being programmed and the chaser is deactivated.

There are two possible signal conditions:

1. Indication of correct DMX-512 signal condition, which is similar to the picture on the left. The letter "d" means **dmx** and the digits "001" refer to the start address.
2. Indication of incorrect or missing DMX-512 signal condition, which is similar to the picture on the left. The letter "d" means **dmx** and the letters "FLd" mean that the DMX signal failed or is incorrect.

DMX-512 Start Address.



Indication of DMX-512 Start Address "001".

The dimmer DDE Actor is provided to you with DMX Start Address "001". To change the DMX Start Address please do the following:

From the indication of DMX-512 signal condition:

- Press the "MENU" button.
- The display changes and shows the current start address, as indicated in the left picture (the DMX-512 start address indication can be different from the one shown in the left picture if the current start address is different).
- Use the buttons "-" and "+" to select the desired number. While you make changes, the 3 digits on the right side of the display are



Indication of DMX-512 Start Address "139".

flashing, indicating that a change is being made. If you press one of these buttons continuously then the digits change faster.

- Press the "ENTER" button to store the change. The digits stop flashing indicating that the new start address is stored.
- Keep pressed the "MENU" button until the display shows the new DMX-512 start address that you have selected.

For example, if you choose 139 to be the new start address, then the dimmer display is similar to the picture on the left (as long as there is DMX signal connection).

Law Selection.

Using this command you can select the output waveform of every dimmer channel, depending on the connected output load type.

The waveforms of the DDE Actor dimmer are:

1. **Linear:** The output voltage depends on the slider setting of a console or the integrated dimmer control panel.
2. **Incandescent:** Linear increase of the luminance of incandescent lamps.
3. **Switch:** For controlling non-dimmable loads (ON/OFF operation).

DDE actor dimmers are provided to you with Linear waveform in all channels.

Attention: When you select the Law Switch, depending on the kind of load, you might need to connect to the output in parallel a 50W-100W dummy load.



Indication of waveform programming.

To select another waveform:

- From the indication of DMX-512 signal condition, press the "MENU" button twice. The display should be now similar to the left picture.

The display should be similar to the left picture (LA.SET).

- Press the "ENTER" button.

The display shows that you can now select the waveform of channel 1 as indicated in the left picture.



Indication of Linear waveform in dimmer channel 1.

The third digit indicates the number of the dimmer channel, while the two digits on the right of the display show the selected output waveform, e.g. Linear (the indication could be different depending on whether you have selected another waveform earlier).



Indication of incandescent waveform in dimmer channel 1.

- Press the button "+". The waveform indication changes and begins to flash. The display shows the indication **Incandescent**.
- Press the button "+" again. The waveform indication changes and continues to flash. The display now shows the indication **Switch**.
- Press the button "+" once again. The waveform indication changes and continues to flash. The display shows the indication **Linear**.

Once you select the output signal waveform you want:

- Press the "ENTER" button to save the setting.

The display stops flashing indicating that the waveform is stored, and at the same time it shows the next dimmer channel for which you can select the waveform.



Indication of Switch waveform in dimmer channel 1.

When you complete the waveform programming of each channel:

- Press the “MENU” button until the display shows the indication of the DMX signal condition.

You should also know that you can select a channel, for example channel 5 and change the waveform that is already programmed for this channel, without the necessity of programming first the previous 4 channels. In this case:

- Press the “ENTER” button as many times as necessary until the display shows channel 5.

Preheat Levels.

This command is used to keep the filaments of some spotlights warm. By this way, the filament is not stressed upon power ignition, since it is warm and the ignition current is small.

Each dimmer channel, after programming this command, keeps a constant voltage level at the channel output, called Preheat Level. The voltage level is set by you and is used to keep the lamp filaments warm.

Attention: You cannot use the “Preheat Level” command if the waveform Switch has been selected for the specific channel.

DDE Actor dimmers are provided to you with 0% Preheat Level in all channels.

To set the Preheat Level of a channel:

- From the indication of DMX-512 signal condition, press three times the “MENU” button.

The display should be similar to the left picture (PH.SET).

- Press the “ENTER” button.

The display indicates that you can program another Preheat Level for channel 1, (ch.1) as shown in the left picture.

The third digit on the display shows the number of the channel, while the two digits on the right show the Preheat Level expressed as a percentage, programmed in the specific channel, which in this case is 0% (the Preheat Level percentage could be different if you have previously set another preheat level for this channel).

- Press the “-” or “+” button to decrease or increase the Preheat Level accordingly.

The percentage indication changes by 1% and begins to flash showing the change. If you press the button continuously, the indication changes faster.

The maximum preheat level you can set is 20% of the operating voltage of the dimmer.

When you see on the display the Preheat Level percentage you want, for example 12% as shown in the left picture:

- Press the “ENTER” button to save the setting.

The display stops flashing indicating that the Preheat Level for that channel has been stored and at the same time it shows the next dimmer channel for which you can program the Preheat Level.

Once you complete the Preheat Level programming for the channels you want,



Indication of programming the Preheat Level.



Indication of 0% Preheat Level in channel 1.



Indication of preheat level 12% in channel 1.

- Keep pressed the “MENU” button until the display shows the indication of DMX-512 signal condition.

You should also know that you can select a channel, for example channel 5 and change the Preheat Level that is already programmed for this channel without the necessity of programming first the previous 4 channels. In this case:

- Press the “ENTER” button as many times as necessary until the display shows channel 5.

Soft start.



Indication of programming the Soft Start of an output.



Indication of Soft Start 0,0 sec. in channel 1.



Indication of Soft Start 1,2 sec in channel 1.

You can program the gradual increase of the dimmer outputs, depending on the Soft Start that you have set. You can use this setting to protect the lamp filaments from high ignition current, without consuming power by using the Preheat Levels in case you have many loads or you want the lamp filaments to be off.

Attention: You cannot use the “Soft Start” setting if the waveform Switch has been selected for the specific channel.

DDE Actor dimmer is provided to you with zero Soft Start in all channels.

To set the Soft Start of a dimmer channel:

- From the indication of DMX-512 signal condition, press four times the “MENU” button.

The display should be similar to the left picture (SF.SET).

- Press the “ENTER” button.

The display indicates that you can now program another Soft Start for channel 1 as shown in the left picture.

The third digit indicates the number of the current channel, while the two digits on the right show the Soft Start time in 1/10 sec. The Soft Start time in now set to 0,0 seconds (the Soft Start time could be different if you had previously set another soft start time for this channel).

- Press the “-” or “+” buttons to decrease or increase the Soft Start time accordingly. The Soft Start time indication changes by 0,1 sec. and begins to flash showing the change. If you press the button continuously the indication changes faster.

The maximum Soft Start time that can be selected is 25/10 or 2,5 seconds.

When you see on the display the Soft Start time you want, for example 1,2 seconds as shown in the left picture,

- Press the “ENTER” button to save the setting.

The display stops flashing indicating that the new Soft Start time has been stored and at the same time it shows the next dimmer channel for which you can program the Soft Start time.

Once you complete the Soft Start programming for the channels you want,

- Keep pressed the “MENU” button until the display shows the indication of DMX-512 signal condition.

You should also know that you can select a channel, for example channel 5, and change the soft start time that is already programmed for this channel, without the necessity of programming first the previous 4 channels. In this case:

- Press the “ENTER” button as many times as necessary until the display shows channel 5.

Selection of “Hold” or “Blackout” dimmer response.



Indication of “Hold” setting.



Indication of “Blackout” setting.

With this setting you have the capability of selecting the dimmer response in case of failure of the serial DMX connection.

There are two options:

1. You can Hold the last DMX-512 data – HOLD operation.
2. You can clear the last DMX-512 data – BLACKOUT operation.

Please note that the Blackout refers only to the DMX input and not the general dimmer operation. This means that the integrated control panel, the analogue input and the chaser operate normally.

DDE Actor dimmer is provided to you with the “Hold” operation active.

To program the “Hold” or “Blackout” operation:

- From the indication of DMX-512 signal condition, press five times the “MENU” button.

The display should be similar to the left picture (d.F.HOL).

- Press the “-” or “+” button to change from “Hold” to “Blackout”.

The display changes and begins to flash, indicating that you have selected a different dimmer response in case of failure of the serial DMX connection. The left picture shows that the display has now changed to “Blackout”.

- Press the “ENTER” button to save the setting.

The display stops flashing indicating the new setting you have selected.

Once you complete the programming,

- Keep pressed the “MENU” button until the display shows the indication of DMX-512 signal condition.

Resetting the dimmer. (Settings to Factory Defaults).



Indication of Reset command.



Indication of correct DMX-512
signal input.



Indication of incorrect DMX-
512 signal input.

With the “Reset” command you can set the dimmer to the default settings (as provided to you by the manufacturer). Before you use this command, make sure that this is what you want, as the Reset command clears all settings that you have previously programmed in the dimmer memory.

To clear the dimmer memory:

- Set to zero the lighting output level in all dimmer channels.

From the indication of DMX-512 signal condition,

- Press six times the “MENU” button.

The display should be similar to the left picture (rESET).

- Keep pressed for approximately 5 seconds the “ENTER” button (stop pressing it when the display shows the indication of DMX-512 input condition).

While you keep pressed the “ENTER” button, notice that the display flashes indicating by this way the time measurement of 5 seconds. If you change your mind stop pressing the “ENTER” button and the time measurement freezes.

When the 5 seconds are over the dimmer memory is completely cleared and the display shows the indication of DMX-512 signal condition.

The two pictures on the left show the two possible display indications depending on whether the DMX-512 signal is correct or incorrect.

Attention: After the reset and before operating the dimmer, do not forget to select the waveform “switch” at the channels where you have connected loads that are non-dimmable.

Technical Specifications	
Channels	6
Minimum channel load	50 W (0.22 A @ 230V~)
Maximum channel load	3.680 W (16 A @ 230V~)
Maximum Total load	7.360 W / phase (32 A @ 230V~)
Triac drive	Hard fired
Control waveform	Linear, Incandescent, Switch
Load Types	Incandescent lights. Resistive Loads. Inductive Loads. Iron core transformers for Low Voltage Lamps.
Output fuse	2 pole Miniature Circuit breaker C16A
Output filter	100 µs
Output monitor	1 Led / per channel
Outputs per channel	2 Schuco sockets
Analogue Input	0 / +10VDC
Analogue input Impedance	50 KΩ (min.)
Analogue input connector	7 pin male XLR
Integrated control panel	6 Sliders + Master
Digital input	DMX-512 / 1990
Digital output	DMX-512 / 1990 Buffered
Indication of fault DMX-512 signal	Display indication
Condition of DMX-512 signal loss	Hold of last DMX value or Blackout of last DMX value
Digital signal plugs	Male 5 pin XLR : input Female 5 pin XLR : output (or 3 pin XLR if preferred)
Programmable Preheat Levels	Independent for each channel from 0-20%
Programmable Soft start	Independent for each channel from 0-2,5 sec.
12 Factory set Chasers	With adjustable rate and dimmer level
Operating voltage (DELTA)	230 V~ 3 / PE / 50 Hz
Operating voltage (STAR)	400 / 230 V~ 3 / N / PE / 50 Hz
Operating voltage (SINGLE PHASE)	230 V~ / N / PE / 50 Hz
Operating voltage Limits	+10% / -15%
Power on Soft Start	Soft Start time 2,5 sec. (when the dimmer begins to operate)
Minimum power consumption	7 W / phase (without load)
Maximum power consumption	22.101 W
Ambient temperature	35° C
Cooling Fan	Controlled by electronic temperature sensor
Dimensions (WxHxD / with handles / with handles and power inlet)	482,6 mm x 132,5 mm x 322 / 357 / 404 mm
Compatibility Norms	EN 60669-1 / 1995 - EN 61000-3-2 / 1995 EN 61000-4-2 / 1995 - EN 55014 / 1993



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