Manual CUBYdim, DimBLOCK-V3 & Dimmypack-V3

dimblock4R4/dimmypack4R4 firmware version ***V2.0***

Theater technisch lab

Before you start to use the dimmer, read this manual completely

General:
You determine the position of the cursor with button [select item]. With the buttons [<<] and [>>] you can change the item that corresponds with the position of the cursor. When you change an item, it is automatically saved in the memory after 40[s]. You can save it immediately by switching between two menus with button [select menu].
The backlight of the display starts burning for 13 seconds, when you push one of the buttons. If you want the backlight to stay on continually, you have to connect pin 1 with pin 2 on jumper J3 placed on the display module.
When powered on the dimmer will check the mains connection and the functioning of the blower.

1. MAIN-menu.
The display shows this menu, when you turn on the pack. When you have selected an other menu the display will return to this menu after a few minutes, automatically. The set-up possibilities are:

- Setting the DMX-pack address:
  DMX-ADDRESS= 1 up and until 987 (or PACKADDRESS= 1 t/m 987)
- Setting the grandmaster, you can dim the outputs globally:
  GRANDMASTER= 0 up and until 100% (or MASTERCTRL.= 0 up and until 100%

2. DIMMER-menu.
Push for this menu on button [select menu]. Adjustable dimmer items are:

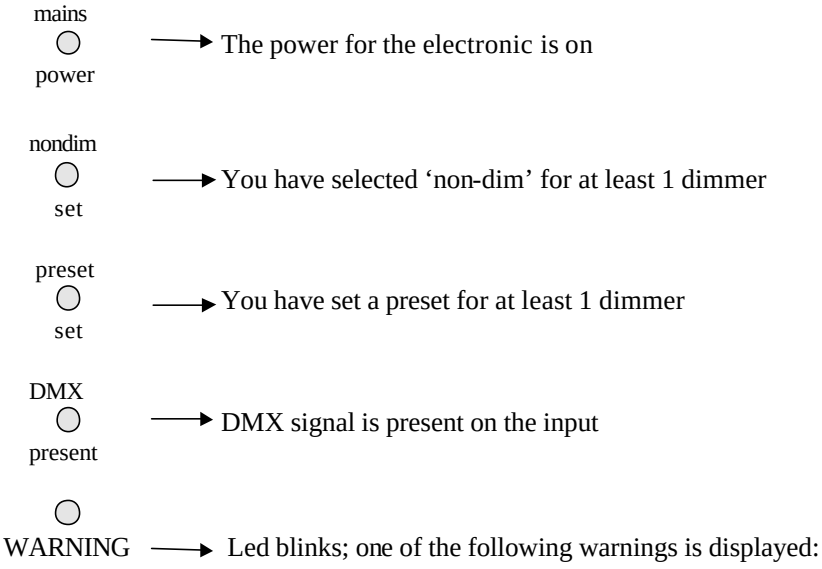
- Controlcurve. This is meant to adjust the the way a lighting control desk controls to the dimmer output.
  If you have setup 'non-dim' for one of the dimmers the green led <nondim set> is on.
  CURVE= 'non-dim' (threshold= 50%)/ Linear/ '40W' (+/-40 Watt lamps)/ 'Trafo 12V'/ S-curve3/ S-curve4/ "110V" (for 110V pars).
- Preset value. You can pre-heat your pars or create a light-scene on the pack. If you have set a preset the yellow led <preset set> is on. The steering of the dimmer is equal to the highest of the DMX-steering and the preset setting:
  PRESET 0 up and until 100%

3. SET-UP-menu.
Keep button [select menu] pressed for a while. The set-up possibilities are:

- Holding the DMX input information or not on loss of DMX signal:
  HOLD-DMX: y/n
- Setting up a Generator Jitter Compensation. This is important in case of a portable generator. You can reduce the sensitivity of the pack for generator instability. A higher number means less sensitive. (Attention, if you select a higher GJC level, you get less possibilities for an invisible pre-heat setting):
  GJC=[0,1,2,3,4,5] default=1.
- Re-set the dimmer-pack to default (factory settings):
  RESET ALL: n/y ⟶ Default: DMX-Address=001,GRANDMASTER=100%
  Curve=linear, PRESET=0% (for all dimmers),
  Hold-DMX:y, GJC=1.

4. STATUS-menu
Push button [View dimmer input and load]. With button [<<] and [>>] you can select a dimmer number. The displays show the DMX input for that dimmer in % and the output power in kW. In case of overload till 25% the display shows 'CLIPPED at 2.5kW. If 25% clipping is not enough to limit the output at 2.5kW the concerning dimmer will be faded off.
You can test the selected dimmer by pressing button [View dimmer input and load] again. The concerning dimmer reacts with a blackout and after a while the original level will fade in again.
Be aware that all power values are related to a mains voltage of 230V!

Front indications:



REPLACE FUSE 12 ..	A burned dimmer fuse. Replace with ceramic fuse 6,3x32mm 16A fast or 12,5A slow, with a breaking capacity of 1500A.
CHECK PHASE L2 ..	A phase is missing in the main power
OVERTEMPERATURE	The internal temperature is too high (>65 ^{0}C). The output for each dimmer is dimmed until 0% in 15 sec.. The opposite takes place when the internal temperature declines under 60 ^{0}C.
MAINS CONNECTION ERROR:DISCONNECT	There is one of the following mains errors: the neutral is missing, the neutral and one of the phases are exchanged or a bad earthing. Only when powered on with buzzer alarm.
BLOWER BLOCKED!	This display informs you that the blower is blocked. Check it out! Only at power-on with buzzer alarm.
BLOWER FAILURE CHECK CONNECTION	This display informs you that the blower is possibly not connected or defective. Only at power-on with buzzer alarm.
SHORT CIRCUIT ON 2	This display informs you there is a short circuit situation in the circuitry connected to dimmer 2. Disconnect the load. You have to push button [View dimmer input and load] to reset the electronics
OVERLOADED DIM.! 3	This display informs you dimmer 3 is overloaded. Remove this overload. You have to push [View dimmer input and load] to reset the electronics

APPENDIX

Portable Generator

In case a portable generator powers the dimmer pack we advice to set the Generator Jitter Compensation (GJC, set-up menu) on 4 or 5. Doing this a flicker free operation of the dimmer pack is more assured.

Conventional- and electronic transformers with 12V halogen lamps

Conventional transformers:

DimBLOCK en dimmypack are basically triac-dimmers. They can handle conventional transformers. But in case of high power transformers you have to pay attention to the inrush current. There can appear a high inrush current that triggers the shortcircuit dectection. In these cases we strongly advice to use an inrush current limiter. Contact your local supplier or directly call Theater Technisch Lab for more information.

Electronic transformers:

Dimmable electronic transformers must be types that are meant for inductive loadable dimmers or dimmers based on trailing edge phase control.

Pay attention to the minimum load you have to connect to the trafo. This value is printed on the trafo. If you do not fullfill this requirement the lamps connected on that trafo are not well dimmable.

Conventional TL-lamps and stroboscopes

You cannot directly connect TL-lamps and stroboscopes on the output of dimBLOCK en dimmypack. These loads can generate enormously high voltage spikes on the output of the dimmer. These spikes can destroy the triac or driver components of the dimmer. We strongly advice to use a voltage limiting device such as a varistor. You have to connect this component between the phase and the neutral connection of the load. Call for more info.

Triac replacement

When the output drives the load uncontrollable at 100% or 50% in most cases the corresponding triac is destroyed. Replacement of a triac is simple. Because they are placed in a cage clamp block and not soldered! You have to remove a clamp that pushes six triac to a heat sink. So it is possible to change the triac yourself. For spare parts contact your local supplier or directly call Theater Technisch Lab for more information.

1-phase connection

The dimmer can function on one phase by use of an adapter in which the three phases are tied together. In case of a not polarized mains connection (schuko etc.) there is a 50% chance for an alarm signal at power on; the electronics has detected a potential drop between neutral and earth. Disconnect the pack from mains power, turn the mains connector 180 degrees and put it back again. **In case the mains does not have a real Neutral, the pack should stick at power on; you can skip the mains failure test by pushing button [View dimmer input and load] while the pack is powered on.**

Group circuit breaker

Be aware that the group circuit breaker on which the pack is connected must have a C-characteristic curve.

RECOMMENDED FUSES:

12.5A, 500V breaking capacity: 1500A, characteristic: slow

16A 500V breaking capacity: 1500A, characteristic: fast.

FIRST DISCONNECT THE MAINS, BEFORE YOU OPEN THE DIMMER: DANGEROUS TO LIFE !!!
INSTALLATION AND REPARATION BY QUALIFIED PROFESSIONALS

DimBLOCK en Dimmypack and Tripack5 are digital portable dimmers of Theater Technisch Lab:
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