OPERATING MANUAL

DMX LED Current Dimmer 5004A-FG

Thank you for choosing SOUNDLIGHT products.

The SOUNDLIGHT DMX LED Current dimmer 5004A is an intelligent 4-channel dimming device to control high current, high output Luxeon ® LED devices. The unit complies with digital control signals according to USITT DMX-512/1990 or DIN56930-2, respectively. It is compatible with all DMX512 light control systems. Its advantages include:

- **universal protocol decoding**
  Recognizes all variants of the protocol as defined by USITT / ESTA / DIN

- **future-proof**
  The unit is software controlled an can easily be adapted to any change in protocol definition.

- **simple supply**
  The supply voltage is mains voltage 230V 50 Hz AC.

- **data failure proof**
 At data loss, the last valid setting will remain intact

Applications

The LED current dimmer 5004A-FG has been designed to dim high current LED devices precisely. Factory setting is for a maximum output current of 700mA @ 24V per color, conforming to the Luxeon ® Standard wiring shown below. As the unit is flicker-free, it is ideally suited for film and TV applications, but can similarly be used for architectural lighting, for show, dance floor or live concert.

Suitable LED devices are ® Light Sources (Lumileds) or Dragon ® LED (Osram). Each output of the 5004A current control dimmer can feed up to 12 LEDs, to be connected in two paralleled chains of 6 LEDs each. Common connection of the LEDs are the anodes, whereas the cathodes are driven from the control outputs. Maximum forward voltage of each LED chain should not exceed 22,8V DC.

The LED Dimmer 5004A is intended to drive these LED devices directly:
- 1x LEDSPOT 48 RGBW
- 1x LEDSTRIP 38 RGBW
- 1x LEDSTRIP 36 RGB
- 2x LEDSPOT 18 RGB
- 4x LEDSPOT 12
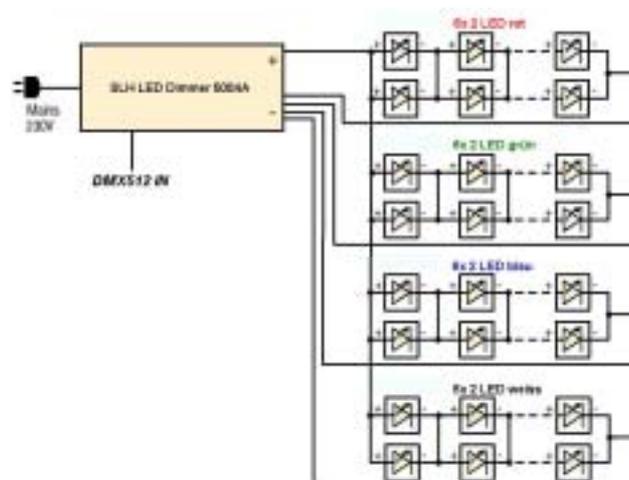
Unpacking

Please unpack carefully and check that all items are intact. When leaving our factory, the unit has been in good condition. In case of damage during transport please notify the carrier immediately.

When unpacking, you should identify these items:

*   the dimmer pack 5004A-FG
*   this manual
*   a power cord

Connectors

The unit feautures connectors for power supply, for connection of the LED arrays and for the DMX512 data input.

Back side: **POWER SUPPLY 230V (IEC)**
                    by IEC standard connector. Delivery includes a suitable feeder cable.

                    LED-Connector (XLR 6)
                    by XLR connector 6pin female.
                    1= Drive CH1 (red)
                    2= Drive CH2 (green)
                    3= Drive CH3 (blue)
                    4= Drive CH4 (white)
                    5= not connected
                    6= +24V COMMON ANODE

Front side: **DMX 512 IN / OUT (RJ45 DMXNET)**
                    1   = DMX -
                    2   = DMX +
                    3,6   = DMX GND
                    4...8   = nc

Signal Indicators

The state of the demultiplexer card is signalled with two indicator LEDs.

green: OPERATION (blinking)
red: ERROR (blinking)
            Error blinking at data errors or loss of communication.

Start Address Switches

The three decimal coding switches set the start address, that is the address of the first channel to be decoded. The setting is fully decimal, no binary conversion is necessary as is with DIL switches.
      S1:   Ones
      S2:   Tens
      S3:   Hundreds

If the switch block is set to non-defined address 000, all outputs are disabled regardless of the data received.The dimmer status is being signalled with two LEDs on the front panel.

Valid start address settings are 001 to 512. Recommended start address settings are 001 to 509 for 8 bit data mode, and 001 to 505 for 16 bit data mode.

Automatic test patterns

Setting the start address selector switches to addresses of 800 and more, varios test modes will be invoked. Use these settings for:

Adress	Test pattern	
801	Channel 1 (red)	100%
802	Channel 2 (green)	100%
803	Channel 3 (blue)	100%
804	Channel 4 (white)	100%
900 - 962	Rainbow color chase, select speed by address (900: fastest, 962: slowest)	
964 - 993	same, but additionally 100% white	
996	Flashing all outputs to 50%	
997	Flashing all outputs to 100%	
998	Ramping up all outputss synchonously	
999	Set all outputs to 100%	

DIP-Switches

The configuration of the LED dimmer is set by a 4-position DIP switch. The DIP switch is located right next to the address setting switches ans allows selection of various parameters. Factory setting of all switsches is OFF

DMX CONTROL MODE
Output control is via four (8 bit) or 8 (16 bit) resolution.
This is selected by DIP switch #1

1	2	3	4		
off	x	x	x	8 Bit control (1 DMX channel per color)	*(factory setting)*
on	x	x	x	16 Bit control (2 DMX chennels per color)	

SIGNAL SMOOTHING
Use DIP-switch #2 to select signal smoothing.

1	2	3	4		
x	off	x	x	Smoothing ON , slow response	(*factory setting*)
x	on	x	x	Smoothing OFF, fast response	

SAFETY LEVEL
Sets the intensity level, which is output at loss of DMX data signal.
Use DIP-Switch #3 to select the safety level.
NOTE: valid only when HOLD = OFF (see below)

1	2	3	4		
x	x	off	x	Safety value = 0 („LAMPS OFF")	*(factory setting)*
x	x	on	x	Safety value = 1 („LAMPS ON")	

HOLD MODE
The HOLD mode will hold the last valid data level at loss of control signal.
Use DIP-Switch #4 to select HOLD mode.
NOTE: setting supersedes Safety Level setting

1	2	3	4		
x	x	x	off	Hold-Mode OFF	*(factory setting)*
x	x	x	on	Hold-Mode ON	

Address board LED blink codes

Green	Red	LED-Status
ON	-	OK, receiving valid data
-	blink	ERROR: no DMX signal received
2x blink	ON	Current setting is being stored in EEPROM

Futher error codes: count number of red blinks after green blink

1 x start	1x	The DMX start address has been set to 000
1 x start	2x	The DMX start address has been set such, that some channels would be outside the valid 512ch data range
1 x start	3x	The DMX start address is higher than 512
1 x start	5x	The DMX startbyte is not zero
1 x start	6x	Service routines have been selected
1 x start	7x	The received DMX universe is smaller than the start address set
1 x start	8x	-

Technical Data

Dimensions:	218mm (1/2 19" B) x 44mm (H) x 305mm (T)
	outside dimensions without conectors
Power supply:	230V 50Hz max 75W (PF ca. 0,94)
DMX IN:	1 Unit Load, RJ45 (DMX NET®)
	Pin 1= DMX -
	Pin 2= DMX +
	Pin 3= GND
DMX OUT:	fed through
Dimmer Out:	4x 700mA @ max. 22,8 V
BestellNr.:	5004A-FG

Mounting instructions

The unit is intende for use as stand alone unit or can be nmounted in standard 19" rack cabinets.
A mounting frame (order code: 5004A-FRA) is available. This frame accepts two dimmer units and
mounts in 1U rack space.

IMPORTANT NOTE:
This will generate heat to be dissipated. The amount of heat generated differs with the number and
quantity of LEDs driven. It is of importance, that the ventilation holes must never be covered, free air

ventilation must be maintained at all times. The mounting frame is made with mating ventilation grilles; when mounting multiple devices in a rack cabinet we recommend to
- stack no more than four units
- use a fan (fan drawer) for blowing fresh air from below the dimmer units

DISTURBANCES

If a trouble-free operation cannot be guaranteed, disconnect the relay card interface and secure it against unwanted operation. This is especially necessary, when
- the unit has visible damages;
- the unit does not operate;
- internal parts are loose;
- connection cables show visible damages.

LIMITED WARRANTY

This instrument ist warranted against defects in metarials and workmanship for a period of 12 month, beginning with the date of purchase. The warranty is limited to repair or exchange of the hardware product; no further liability is assumed. SOUNDLIGHT is not responsible for damages or for loss of data, sales or profit which arise from usage or breakdown of the hardware product. In germany, SOUNDLIGHT will repair or replace established defects in hardware, provided that the defective part is sent in, freight paid, through the responsible dealer along with warranty card and/or sales receipt prior to expiration of warranty.
Warranty is void:
- when modifying or trying to repair the unit without authorisation;
- modification of the circuitry;
- damages by interference of other persons;
- operation which is not in arccordance with the manual;
- connection to wrong voltage or current;
- misuse.

SERVICE

There are no parts within the DMX LED current control Dimmer 5004A-FG which require the user's attention. Should your unit require servicing, please send it to the factory, freight paid.

INTERNET-HOTLINE

Please check our internet domain **http://www.soundlight.de** for new versions, updates etc. If you have any comments which may be worth considering, please send a message to *support@soundlight.de*. We will check your message and reply accordingly.

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