



General

The DIMMTRONIC LED PWM Dimmer converts an analog and/or a digital input signal into three pulse width modulated (PWM) output signals.

Each of the 3 output-channels can drive up to 4.0 A. The input voltage range is from 12V to 48VDC, it depends on the external power supply (not included in delivery). The output voltage is equal to the input voltage.

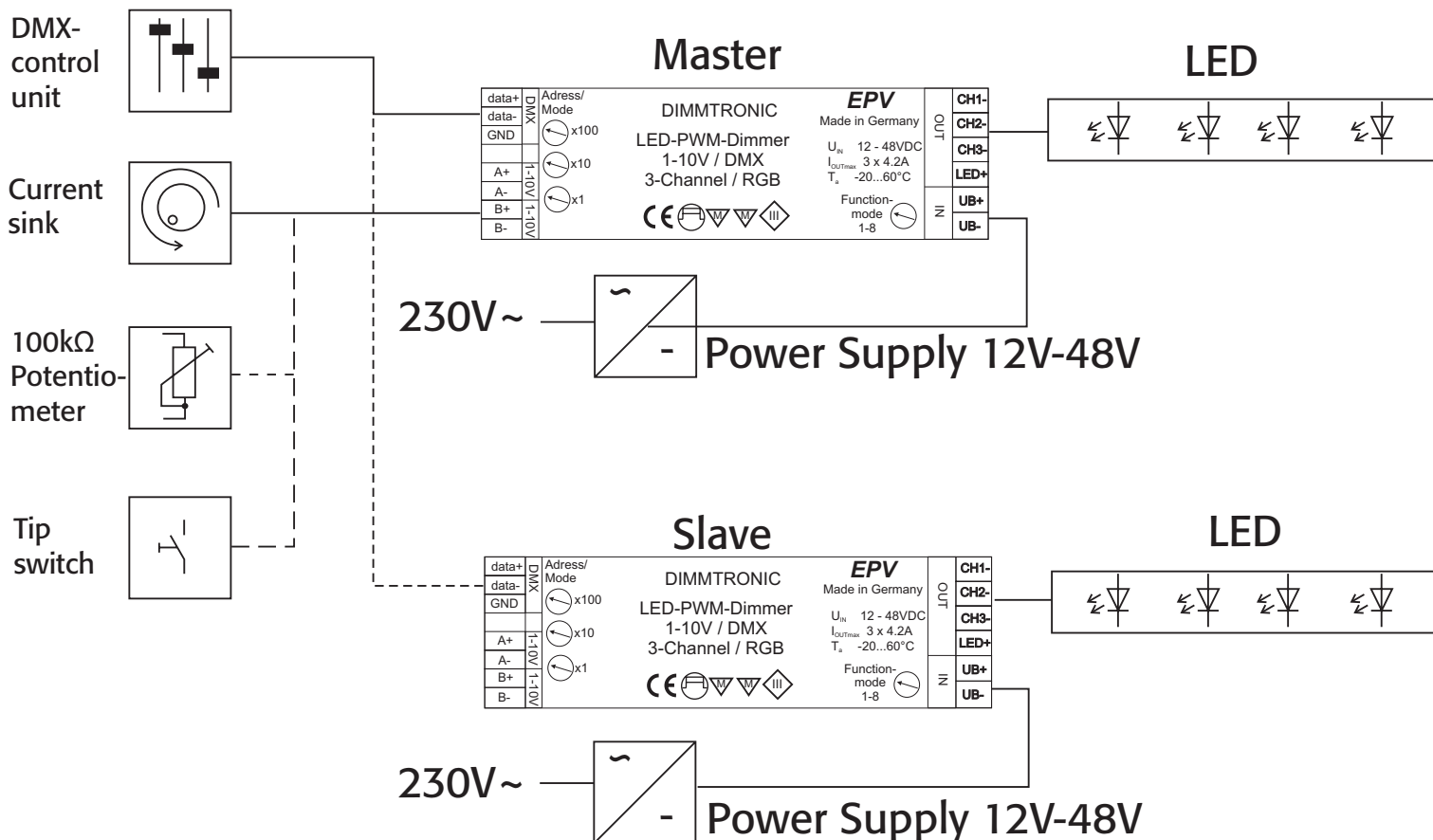
The dimmer can drive linear controllable LED-stripes, LED-Bars, LED-Modules, etc. when these are cathode dimmable. The control inputs can be connected to DMX-Controller, 1-10V current sinks, potentiometer (100k) or tip switches.

The DIMMTRONIC LED PWM Dimmer has 3 basic function modes and 5 special modes.

To extend the power further DIMMTRONIC LED PWM Dimmer could be added to the DMX-terminals. DMX is a digital control protocol for the lighting control.

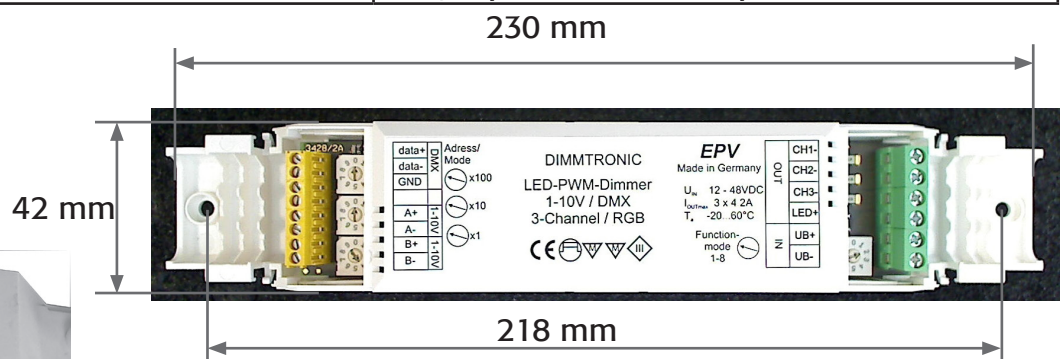


Please use power supplies manufactured according to EN61347-2-13.



Technical Data

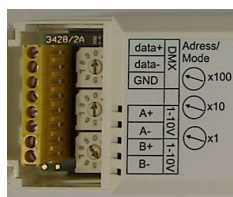
Power Supply	12 - 48 V=
Current Consumption	ca. 25 mA (without load)
Number of Control Inputs	3 (2x 1-10V, 1x DMX)
Control Terminal conductor cross-section	0.08-1,5 mm ² / AWG 28-18
Control Signal	I. 1-10V Schnittstelle (aktiv / passiv) II. 1-10V Schnittstelle (aktiv / passiv) III. DMX
Number of Outputs	3
Output Mode	constant voltage
Output Terminal conductor cross-section	0.08-2,5 mm ² / AWG 28-12
Modulation Methode	16-Bit PWM / 250 Hz
Output Voltage	depends on power supply 10 - 48 V
Output Current	3 x 4.0 A, short-circuit-proof
Temperature Range	-25 ... +60° C
Dimensions	230 x 41 x 33 mm
Weight	115 g
Applicable Control Units	DMX-Master, electronic potentiometer (current sink), tip switch, 100 kΩ-potentiometer



To remove the cover caps use a flat screw driver and push into recess on the top of the cap and push the cover cap sideways.

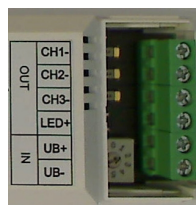
Terminal Assignment

Control terminal, yellow



Terminal	Function	Notation
1	DMX-IN/OUT	data +
2		data -
3		GND
4	1-10V	n.c.
5		A +
6		A -
7	1-10V	B +
8		B -

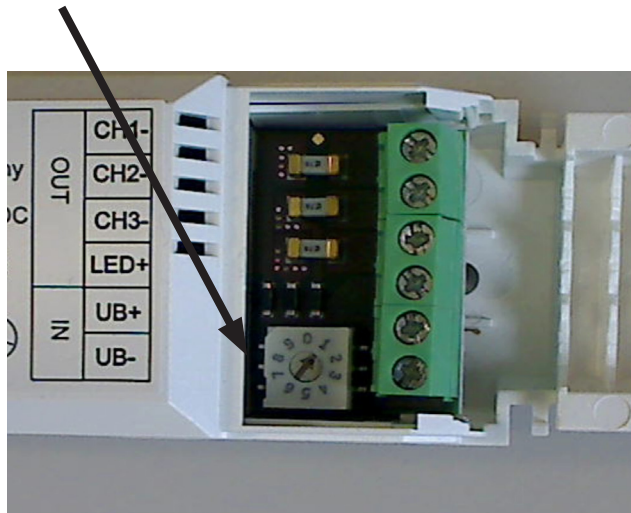
Output terminal green



Klemme	Function	Notation	Description
1	RGB-Ausgang	CH1 -	rot
2		CH2 -	grün
3		CH3 -	blau
4	Spannungsversorgung	LED +	Uout +
5		UB +	
6		UB -	GND

Function Modes

The function mode is selected by the rotary switch on the right side (at the green terminal)



Basic Modes

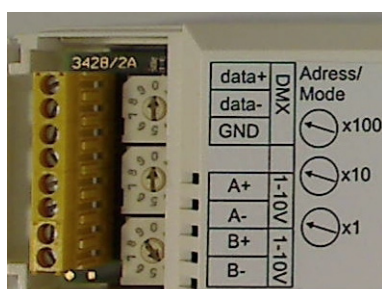
switch setting function mode	function description
0	no function
1	PWM-Dimmer with 1-10V control The control unit at 1-10V terminal B drives the brightness of all three outputs similar.
8	PWM-Dimmer with tip switch control A tip switch on 1-10V-terminal B controls the brightness of all three outputs similar.
2	PWM-Dimmer with DMX Control Each of three sequently DMX control channels drives one output channel.
3	PWM-Dimmer with colorcontrol by 1-10V A control unit at 1-10V-terminal B regulates the brightness, at terminal A the color and address switch „x10“ the color saturation.



Description of all eight function modes under www.EPVelectronics.com

DMX Address Adjustment

The startup channel for DMX is set with the three rotary switches on the left side (near the yellow terminal). The address between 10 and 512 is set by „x1“, „x10“ and „x100“. Example: address 135 will be set by 1 at the upper switch, 3 at the middle switch and 5 at the deepest switch.



Rotary switch for the DMX - address:

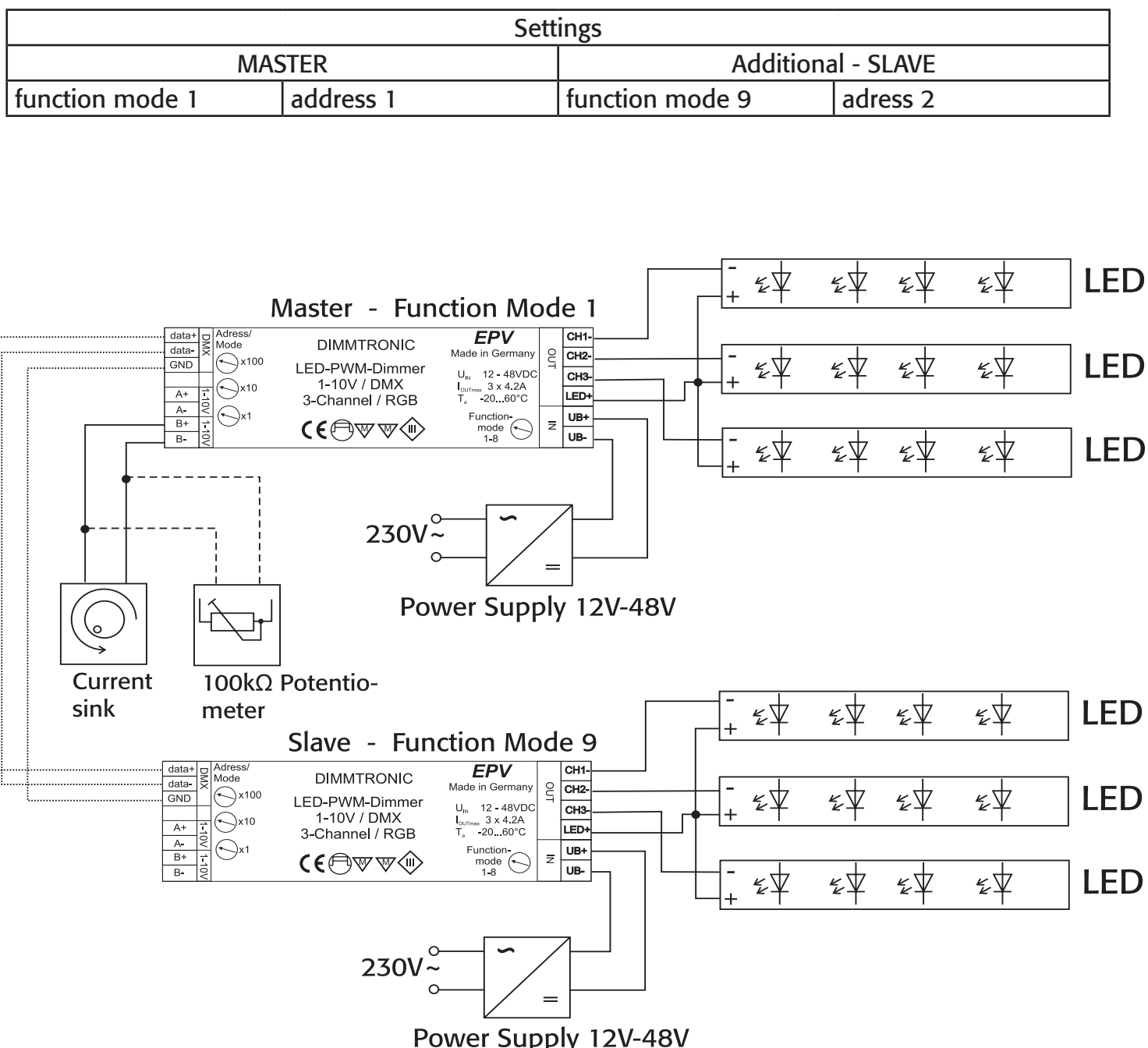
x100

x10

x1

Function Mode 1: PWM-Dimmer with 1-10V control

Connect a potentiometer, a current sink or a voltage controlled source to the control terminal „1-10V“-B (B+/B-). The voltage of all three output channels is equal to the control source between 0 and 100%. A voltage at B+/B- higher than 0.5 V and lower than 1 V turns off the outputs. If the voltage is lower than 0.5 V a emergency lighting mode with 100% brightness is activated. For larger application additional PWM-Dimmers can be added in SLAVE mode. Connection via DMX terminals (data+, data-, GND). The SLAVE mode is activated in function mode „9“. The DMX-address has to be set to „2“ and at the MASTER to „1“.



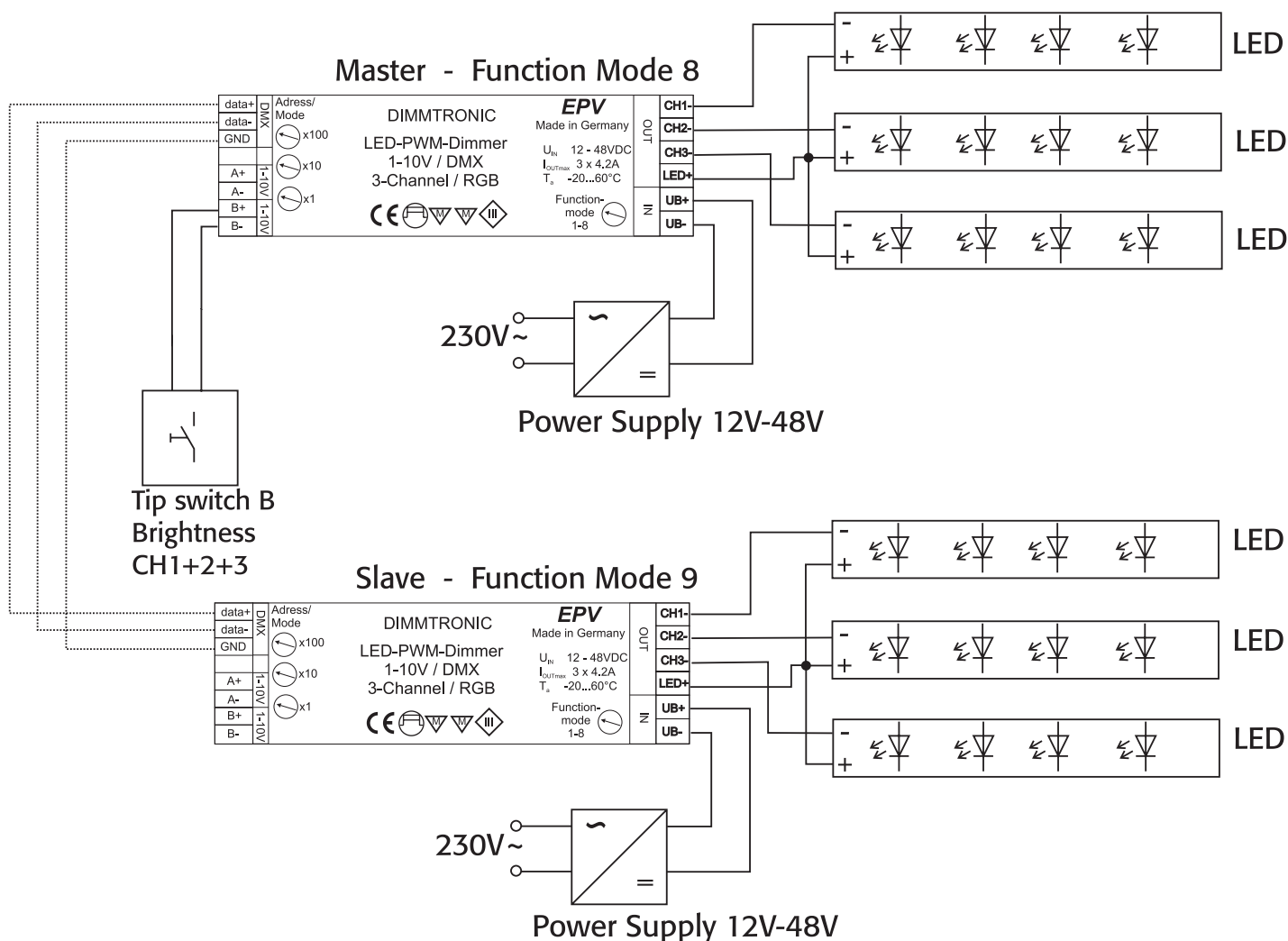
Function Mode 8: PWM-Dimmer with tip switch control

Connect a tip switch/push button to the control terminal B (B+/B-) and control all three output channel similar. A short push to the tip switch turns on or off the LEDs.

When the PWM-Dimmer is off, a long push to the tip switch, turns on the PWM-Dimmer with softstart from 0%. A long push when the PWM-Dimmer is already on, dims the LED. To change/invert the dimming direction unhand the tip switch. At the maximum or minimum brightness the dimming direction changes not automatically, the dimmer remains in the dimming level.

For larger application additional PWM-Dimmers can be added in SLAVE mode. Connection via DMX terminals (data+, data-, GND). The SLAVE mode is activated in function mode „9“. The SLAVE mode is activated in function mode „9“. The DMX-address has to be set to „2“ and at the MASTER to „1“.

Settings			
MASTER		Additional - SLAVE	
funktion mode 8	address 1	funktion mode 9	address 2



Function Mode 2: PWM-Dimmer with DMX control

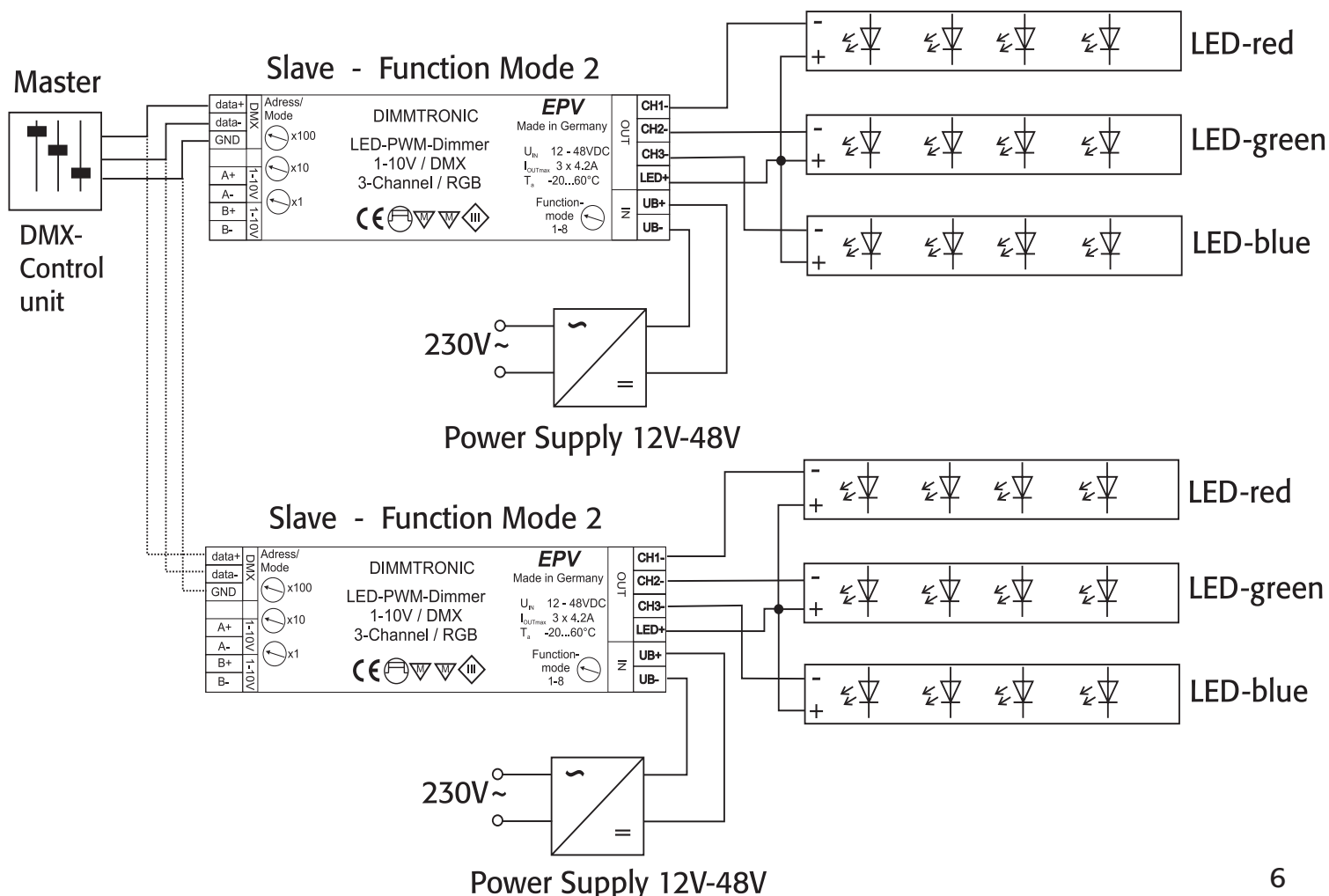
A DMX control panel with at least three channels connected to the DMX terminals (data+, data-, GND), controls the output channels.

For a RGB color control connect red, green and blue LEDs (stripes or modules) to the PWM-output-channels.

The DMX startaddress is set by the rotary switch on the right side. The lowest switch for the digits from 0-9. The switch in the middle for the digits from 10-90 and the upper one for 100-900. The address could be from 1 to 512. The chosen address applies for channel 1. The next two addresses will be set for channel 2 and 3 automatically.

For larger application additional PWM-Dimmers can be added, via DMX terminals (data+, data-, GND). With the same startaddress at all PWM-Dimmers, they react all as one. For an individual control the startaddress of the next one has to be increased by 3 as for the previous PWM-Dimmer.

Settings			
LED PWM Dimmer 1		LED PWM Dimmer 2	
function mode 2	address for CH1	function mode 2	address for CH1



Function Mode 3: PWM-Dimmer with RGB colorcontrol by 1-10V

For color control connect red, green and blue LEDs (modules or stripes) to the outputs. Connect a potentiometer, a current sink or a voltage controlled source to the control terminal „1-10V“-B (B+/B-) to control the brightness, to A (A+/A-) to control the tint. The rotary switch for the DMX-address „x10“ defines the color saturation.

For larger application additional PWM-Dimmers can be added in SLAVE mode. Connection via DMX terminals (data+, data-, GND). The SLAVE mode is activated in function mode „9“. The SLAVE mode is activated in function mode „9“. The DMX-address has to be set to „2“ and at the MASTER to „1“.

Settings			
MASTER		Additional - SLAVE	
function mode 3	X10 color saturation	function mode 9	Adresse: 2

