

LED-Dimmer LED-03TC-350

General

The LED dimmer has been developed to drive 3 channels of up to 10, 1W LED's. Therefore it is possible, with a dimming resolution of 16 bit (international resolution when driven via the ISYGLT bus), to dim the diodes without intensity deviations from 0-100%. Each channel of the dimmer can be cali-

brated for its own, absolute, time based parameters. This enables not just accurate dimming but also the simple creation of predefined complex colour mixing and lighting scenes.

The following functions can be fulfilled by the LED dimmer in stand alone mode:

- Calculation of ramp up times from 0.5 seconds to 12 hours
- True colour dimming based upon the colour temperature of the total illumination
- Independent ramping from the current true value to a prescribed command value with a defined momentum (currently optional)
- Feed back „Command value achieved“ after the completion of the operation
- Stop function during a time based ramping operation
- OVERSAMPLING error correction. The OVERSAMPLING function basically increases the resolution of the output signal. The generated output consists of an interpolar transitional value. This is most apparent when the low resolution command input (8 bit) is forced to perform an immediate jump, the output signal follows with a 16 bit resolution and effectively blocks any (integral) instability. This function is labelled as „SOFT“ in the programming source code.
- Execution of blinking/strobe functions
- Adaption to various LED modules
- Calculation of defined and pre-empted waveforms
- Calculation of the min and max values for each channel to optimise the full 16 bit bandwidth
- Complex emergency functions

Inputs / Outputs

- 3 outputs for power LED 1W, 350mA
- 1 average input „E“. The function can be parametrised by each channel.

Function displays

- 1 yellow LED signalises by permanent shining that the ISYGLT bus is active but the address of the dimmer won't be detected and by steady flashing the communication with the master module (address detected)
- 1 green LED indicates the control of the outputs (LED flashes, till the desired value has been reached).

Design

- circuit board, without casing

Connections

- 2 connections for the subnet (BUS A and B, RS-485)
- 2 connections for the operating voltage (Ub, 0V BUS components)
- 2 connections for voltage supply LED
- 1 connection anode (+) power LED
- 3 connections cathode (-) power LED

DIP switches

- DMX-512 mode 1:1

Switch	Function	
DIP 1	protocol 1	OFF
DIP 2	protocol 2	ON
DIP 3	address bit 6	module address (highest bit)
DIP 4	address bit 7	module address
DIP 5	address bit 6	module address
DIP 6	address bit 5	module address
DIP 7	address bit 4	module address
DIP 8	address bit 3	module address
DIP 9	address bit 2	module address
DIP 10	address bit 1	module address (lowest bit)

With the DIP switches 3 to 10 the DMX addresses can be committed. The adjusted address, multiplied by 4 and adds up to one, conforms the first of four successive DMX addresses.

- address 0, 0000000 = DMX 1, 2 and 3
- address 1, 0000001 = DMX 5, 6 and 7
- address 127, 1111111 = DMX 508, 509, 510

- DMX-512 mode
Oversampling SOFT and 10ms to 2,5s dimm
delay settable

Switch	Function	
DIP 1	protocol 1	ON
DIP 2	protocol 2	ON
DIP 3	address bit 8	module address (highest bit)
DIP 4	address bit 7	module address
...
DIP 10	address bit 1	module address (lowest bit)

- ISYGLT mode

Switch	Function	
DIP 1	protocol 1	OFF
DIP 2	protocol 2	OFF
DIP 3	reserve	OFF
DIP 4	address bit 7	module address (highest bit)
DIP 5	address bit 6	module address
DIP 6	address bit 5	module address
DIP 7	address bit 4	module address
DIP 8	address bit 3	module address
DIP 9	address bit 2	module address
DIP 10	address bit 1	module address (lowest bit)

- Protocol Pixelmaster

Switch	Function	
DIP 1	protocol 1	ON
DIP 2	protocol 2	OFF
DIP 3	address bit 8	module address (highest bit)
DIP 4	address bit 7	module address
...
DIP 10	address bit 1	module address (lowest bit)

Parameterisation

The ISYGLT ProgrammDesigner contains manifold parameter options.

- Operating modes
 - 3 single channels
 - RGB + 1 single channel, red, green, blue such as a independent single channel
 - Online function shift via special time constant on channel 2
- Setting several dimm curves
- Minimal and Maximal values

Technical data

Type	LED-03TC-350
Art. Nr.	80027043
Operating voltage	12V to 24V for BUS interface 12V to 48V DC impulse stabil for Power LED's
Current consumption	max. 400mA per LED circuit, BUS interface 10mA
Output power	3 circuits with each 350mA for 10x LED 1W per circuit. commendation for external power supply: up to 2 LED 12V DC up to 4 LED 24V DC 5-10 LED max. 48V DC ripple current 1,2A
BUS control	ISYGLT / DMX-512 / Pixelmaster
Line length feed to the LED-Dimmer	Max. 40m / 1.5mm ²
Line length LED-Dimmer to the last LED	Max. 20m / at 1W LEDs 0.50 – 1.5mm ²
Output	16 bit resolution
Mounting	circuit board
Subnet (RS-485)	max. 5.6V limited by Z-diodes
Dimensions	LxBxH 232x54x34mm
Weight	240g
Connection	Terminals for external voltage supply 2.5mm ²
maximal environmental temperature	+45°C
Storage temperature	-25...+70°C
Humidity	0 ...85 % r.F. non condensing
Protection grade	IP00
Immunity	Conformal EN61000-6-1, EN61000-6-2
Noise emission	Conformal EN55015
CE sign	yes

Terminal assignment

Plug terminals

≡ Ub	operatin voltage (BUS components)
0V	operatin voltage (BUS components)
A	Subnet (BUS A, RS-485)
B	Subnet (BUS B, RS-485)

2x RJ10 Modula-Jack 4pol.

1	operatin voltage (BUS components)
2	operatin voltage (BUS components)
3	Subnet (BUS A, RS-485)
4	Subnet (BUS B, RS-485)

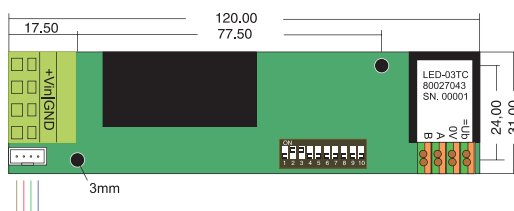
Voltage supply for LED (12-48V DC impulse stabil)

+Vin	voltage input + for LED supply
+Vin	voltage input + for LED supply
GND	voltage input - for LED supply
GND	voltage input - for LED supply

Mini-plug connector (white) location as set on the drawing, counted from the left

1	anode + of the power LED output 1-3
2	cathode - f. power LED output 1 (red)
3	cathode - f. power LED output 2 (green)
4	cathode - f. power LED output 3 (blue)

View



Wiring diagram

