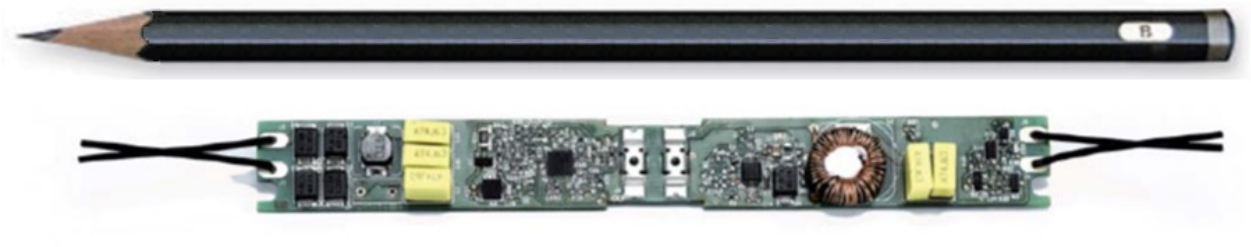
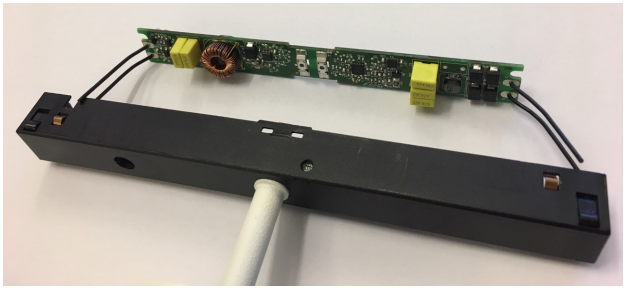
TRACK40 – GU5.3 DATASHEET

GU5.3 LED COMPATIBLE	FLIKER FREE	MULTIFUNCTION BUS	0% DIM	WIDE OUTPUT RANGE	PROTECTION	SW TOOL
	**Ripple and Flicker free IEEE1789 Analog Modulation I > 100mA PWM Modulation I < 100mA**	**MULTISTANDARD** **With External Insulated interface** **- DALI** **- BLUETOOTH** **With or Without External Insulated interface** **- 0-10V** **- 1-10V** **- PWM** **- Push-Dim**	**Deep & Smooth to 0%**	**Wide output range for flexible led selection**	**Overheating; Short-circuits; Voltage spikes; Overloads; Polarity inversion;**	**DEVELED SUITE** **- Iout setting;** **- Max Power Setting;** **- Dimming Curve Linear/Logarithm setting** **- Thermal Protection Threshold setting** **- Read Diagnostic info**



DESCRIPTION

DC-DC track driver is an electronic driver for track lighting,
featuring constant current output.
Driver for built in use, ultra compact size, compatible with 48V Stucchi Track Adapter series 9500.
It can be used for lighting equipment protection class-2.



APPLICATION

It is suitable for 24 and 48V (Low Voltage) Track installation.

FEATURES

- Unique Led Driver for multifunction output:
  - Constant Current range selectable settings;
  - Constant Voltage, selectable value;
  - GU5.3 LED (SORAA VIVID; PHILIPS MASTER LEDspot)
- 40W Output power
- Class-2 power unit;
- Ripple Free;
- Flicker Free IEEE 1789;
- Smooth dimming from 100% to 0.1%;
- High efficiency: 94% at full load;
- Protection against output short circuits, input polarity inversion;
- Wise Programming with SW **DEVELED SUITE**;
- Dimensions (L x W x H): 125 x 14.5 x 11 mm; (inch:4.92 x 5.7 x 0.43)
- Standard safety: UL 8750 - EN 61347-1 - EN 61347-2-13;
- Standard EMC: EN 55015 - FCC part 15, EN 61547;
- Typical lifetime > 50.000 hours;
- 5 years warranty;

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Electrical	
Vin voltage range	24/48V
Efficency	> 90% @ full load
Output Power	0 ÷ 40W
CONSTANT CURRENT MODE	
Output Current	100ma ÷ 1000mA (Programmable full range with SW DEVELED SUITE)
Output voltage range	2.5 ÷ 40Vdc
Dimming	Smooth dimming from 100% to 0.1%;
CONSTANT VOLTAGE MODE	
Output Voltage	12/24Vdc (Programmable with SW DEVELED SUITE)
Output current	1000mA max
Dimming	from 100% to 1%;
GU5.3 LED	
Output Voltage	12Vdc
Output current	1000mA max (max power 12W)
Dimming	from 100% to 1% (Min level configurable with SW DEVELED)
Current regulation	I < 100mA Digital; I > 100mA Analogic; (I value SW configurable)
Current regulation range:	±3% including temperature variations
Start-Up Time	< 100ms
Stand Alone Dimming (not isolated)	- 0-10V - 1-10V - PWM (*) - DIGITAL CONTROL
External interface Dimming (isolated)	- 0-10V/1-10V/PWM - DALI - BLUETOOTH Mesh (Bluetooth Low Energy v4.2, IEEE 802.15.4) - CASAMBI; XICATO GalaXI; Silvair; others on request - DMX (on development) - Compatible with Emergency module compact controller for Emergency light function (pending)
Protection	
Over Current	Yes
Short Circuit	On Output Port. Recovers automatically after fault condition is removed. Restarting after 10sec with slow fade time.
Over Voltage	Yes
Against Polarity inversion	Yes
Over Temperature	No
Against mains voltage spikes	On Input Port.
Against Polarity inversion	On Input and Dimming Port.
Environment	
Working temperature	-25° ÷ +50°C
Max temperature	110°C on Tc point
Storage Temperature/Humidity	-40° ÷ +80°C; 10 ÷ 95%RH
Standard	
Safety	UL 8750 - EN 61347-1 - EN 61347-2-13
EMC Emission	FCC part 15 - EN 55015
EMC Immunity	EN 61547
Mechanical	
Dimensions	125 (L) x 14.5 (W) x 11 (H) mm; (inch:4.92 x 5.7 x 0.43)
IP degree	IP20
DIAGNOSTIC and PERFORMANCE FUNCTION	
DeveLed Suite	- Tool SW for programming and configuration; - Setting every constant Iout value from the Nominal Range; - Selecting Linear or Logarithmic dimming curve; - Selecting min I out level; - Setting current modulation mode (example full Analogic mode); - Enabling special algorithm: CLO, led temperature protection, etc; - It is possible to create and download custom configuration profile; - Reading Diagnostic information from connected Led Driver: FW Version, temperature, over temperature events count, failures, lifetime; - FW upgrade

(*) Minimum voltage value for logical high level: 14V

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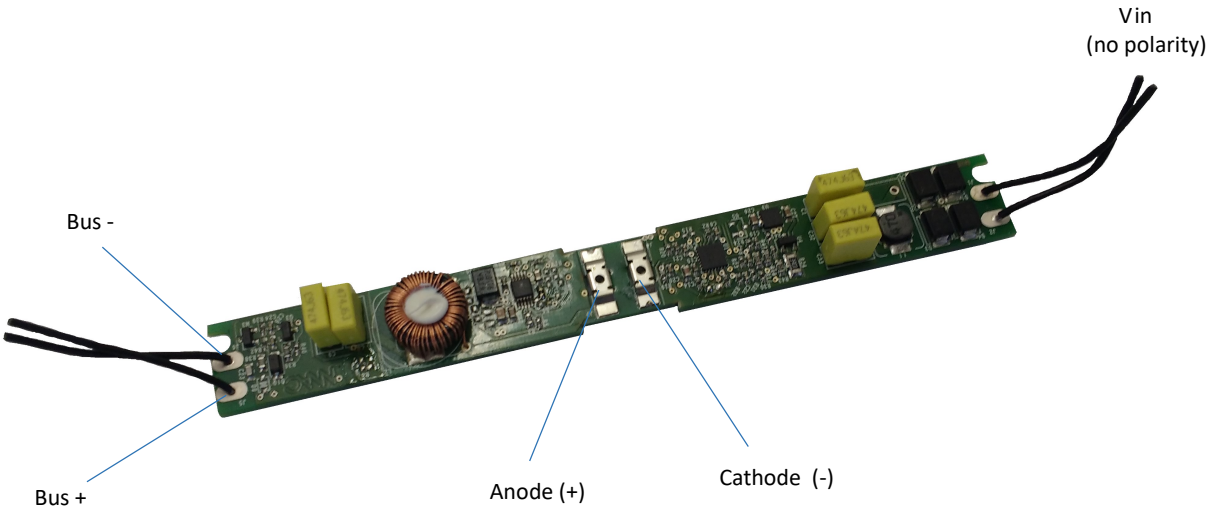
REQUIREMENTS

CONNECTIONS



POWER SUPPLY

An European class I & II or US NEC class 2 constant voltage supply, with isolated output of 48 V dc ± 5 % must be used to power the Led Driver TRACK . Maximum voltage output should not exceed 55 Vdc. Input signal needs to be applied to wires Bus + and Bus -.

DIMMING FUNCTION

To regulate the LED light intensity, a signal needs to be applied to wires Bus + and bus -.
If no signal is applied to BUS, the output current is at maximum level.

GU5.3 LED

SORAA VIVID

PHILIPS MASTER LEDSPOT

LTF SUNLIGHT2

MEGAMAN

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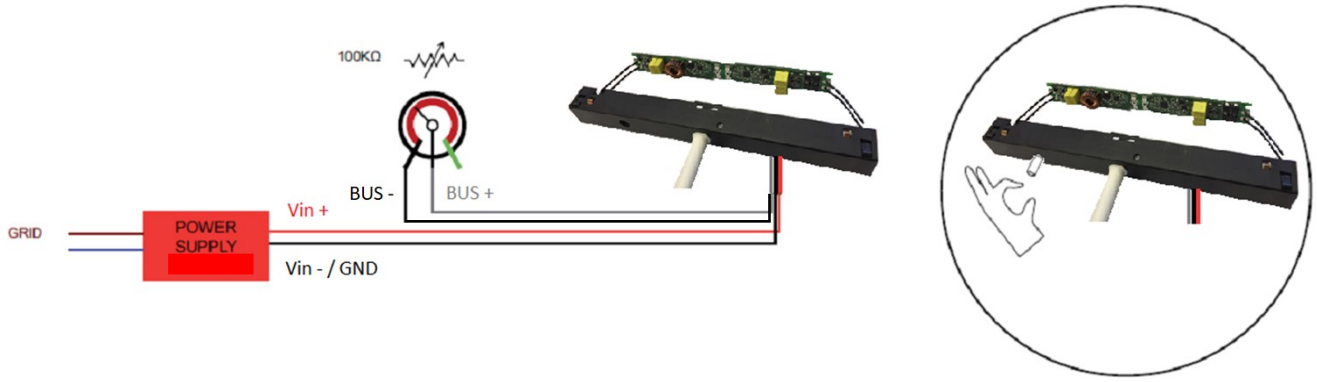
STAND ALONE

STAND ALONE SOLUTION - POTENTIOMETER

- 0-10V ANSI E1.3, Entertainment Technology;
- 1-10V IEC60929 (Annex E) (100kΩ);
- PWM Standard;

Example of TRACK Application with 100kΩ Trimmer Potentiometer;

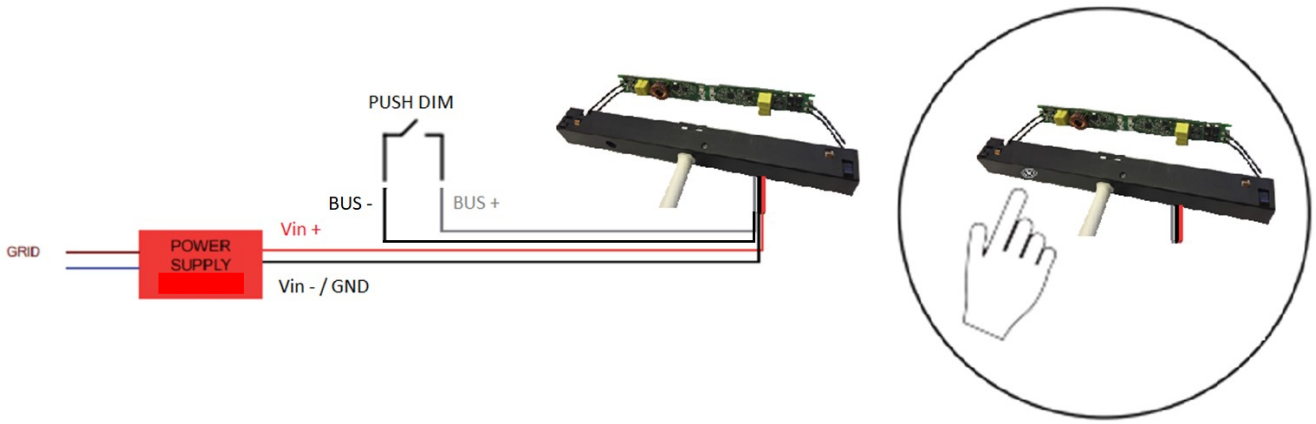


STAND ALONE SOLUTION - PUSH DIM

LED DRIVER built in lamp with PUSH DIM.

- Push for on/off;
- Keep pushed for dimming up and down;

Example of TRACK Application:



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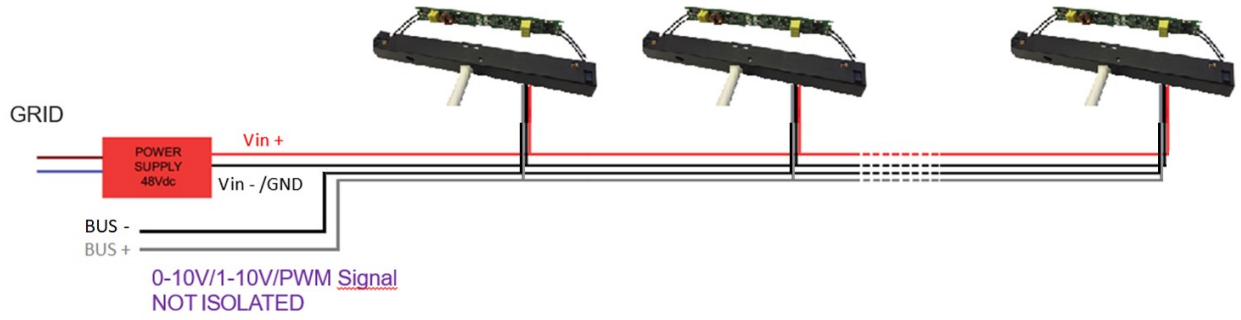
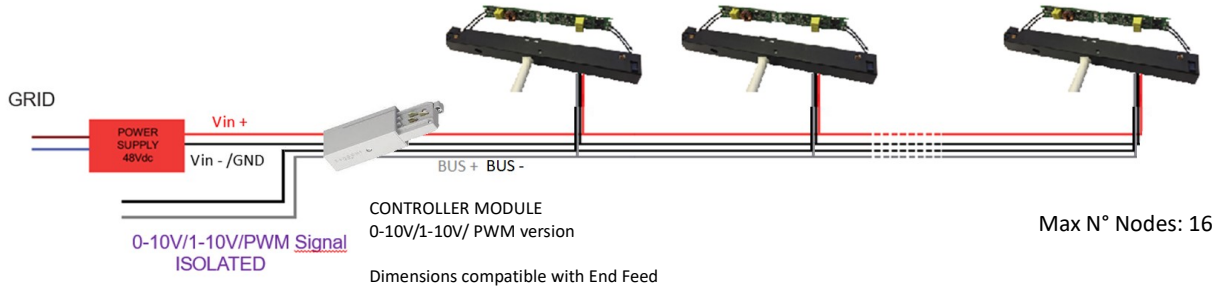
SYSTEM ARCHITECTURE

0-10V/1-10V/PWM ARCHITECTURE (NOT ISOLATED)



0-10V/1-10V/PWM ARCHITECTURE WITH EXTERNAL ISOLATED INTERFACE



CONTROLLER MODULE
0-10V/1-10V/ PWM version

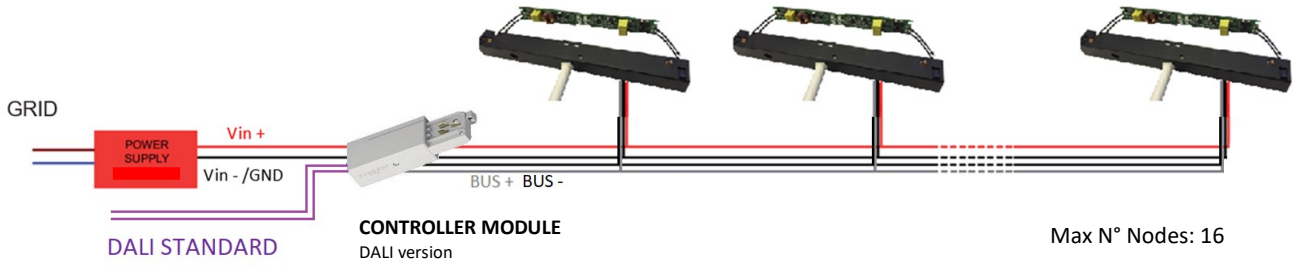
Dimensions compatible with End Feed
for track applications.

ISOLATED
Compliance with New Edition of UL 8750 and Supplement SF- Led Equipment with wired control circuits

Max N° Nodes: 16

DALI ARCHITECTURE

- DALI low voltage is a Low Voltage BUS using a DALI STANDARD protocol.
- Throw controller, it is possible manage every single Led Driver TRACK as an indipendent address.



CONTROLLER MODULE
DALI version

Dimensions compatible with End Feed
for track applications.

Max N° Nodes: 16

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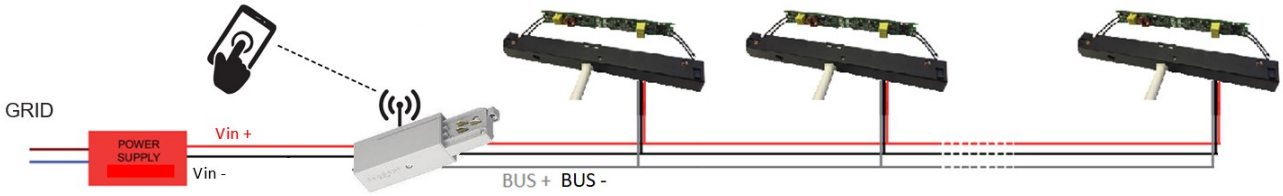
BLUETOOTH ARCHITECTURE

- Throw controller, it is possible manage every single Led Driver TRACK as an indipendent address.

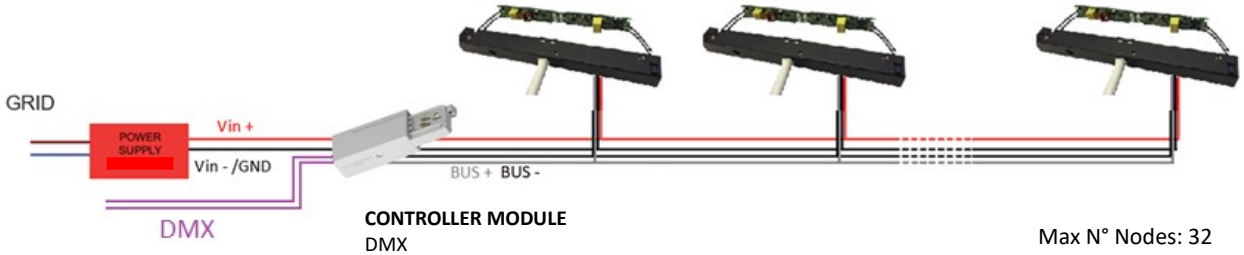


CONTROLLER MODULE
BLUETOOTH Mesh (Bluetooth Low Energy v4.2, IEEE 802.15.4)
CASAMBI
Xicato GalaXi
other on request

Dimensions compatible with End Feed
for track applications.

Max N° BLE Nodes: 16

DMX COMPACT CONTROLLER Version on development.



CONTROLLER MODULE
DMX

Dimensions compatible with End Feed
for track applications.

Max N° Nodes: 32

(*) speed equal to Dali speed as architectural lighting systems

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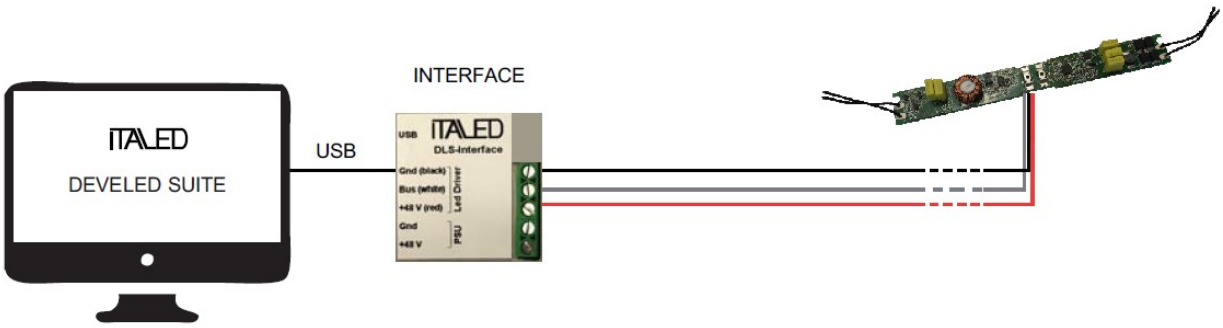
PROGRAM TOOL SW

Full Program and Configuration using PC and Interface:



SW DEVELED SUITE

- Tool SW for programming and configuration:
- Set any constant Iout value from the Nominal Range;
- Select Linear or Logarithm dimming curve;
- Select Dimming Protocol
- Set Fade Time value
- Set Minimum Dimming Iout Value;
- Set Thermal Thresholds of Thermal Protection Algorithm;
- Read tc Realtime Temperature;
- Read SN, FW/HW version, OEM;
- Read Diagnostic: temperature, protection events count, failres, lifetime (pending);
- Enabling special algorithm: CLO, led temperature protection, etc (pending);
- It is possible to create and download custom configuration

DLS INTERFACE:
Dimensions: 15mm x 43mm x 43mm (inch: 0,59 x 1,69 x1,69)