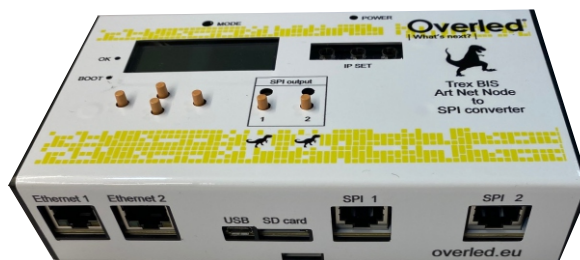


Trex Bis ART NET to SPI converter 2 channel

TrexBis

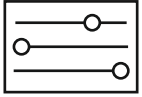


TREXBIS è un prodotto ideale per applicazioni dove sono necessari diversi canali per il controllo di led, come in applicazioni media facade, video wall ecc. TREXBIS converte ART NET (DMX over IP) in SPI (serial protocol interface) permettendo di raggiungere velocità di streaming dati fino a 60fps su 1024 pixel, interfacciandosi con diversi tipi di chip, tipo WS2811/WS2812/WS2812B/APA104/APA106/SK6812 WS o SK e Macroblock, altri chip possono essere supportati a richiesta, anche con un solo segnale Data Out. Trex bis prevede una hub Ethernet che permette di rilanciare ad altri Trex l'Art Net fino ad un massimo di 48 dispositivi, una memoria SD a bordo permette di registrare degli show, nella modalità stand alone, in caso di applicazione del TREX come unico dispositivo di controllo. Sono disponibili 3 switch rotativi per impostazione del byte meno significativo dell'IP assegnato, il resto dell'IP è settabile da software tramite l'applicazione Capybara-Family.exe oltre ad altri parametri, come il numero di universe da serializzare per port ed il recording degli show nella memoria. Il display di bordo permette la rapida visualizzazione dei pacchetti ART NET ricevuti, tramite i 4 tasti sotto di esso, sono possibili i settaggi del tipo di CHIP da controllare per entrambe i port, la velocità di invio di dati, il suo IP, ecc.. Per ogni SPI è disponibile un led di segnalazione che indica lo stato se in play di uno show memorizzato o se connesso in ART NET, e tramite il pulsante sottostante è possibile cambiare facilmente la modalità. Il TREX BIS è progettato per montaggio a barra din, o tramite fori di fissaggio a parete, è inoltre possibile montarlo in una scatola ip65 per applicazione outdoor.



TREXBIS is an ideal product for applications where different channels are needed for LED control, such as in media facade applications, video walls etc. TREXBIS converts ART NET (DMX over IP) into SPI (serial protocol interface) allowing you to reach speeds of Streaming data up to 60fps over 1024 pixels, interfacing with different types of led chips controller, such as WS2811/WS2812/WS2812B/APA104/APA106/SK6812 WS or SK and Macroblock, other chips can be supported on demand, even with a single Data Out signal. Trex bis has an Ethernet hub that allows other Trex to relaunch the Art Net up to 48 trex bis devices, an Onboard SD memory allows you to record shows, in stand alone mode, if the TREXBIS is applied as the only device. Control. There are 3 rotary switches for the least significant byte setting of the assigned IP, the rest of the IP is set by software via the Capybara-Family.exe application in addition to other parameters, such as the number of universes to be serialized for port and the recording of the shows in memory. The onboard display allows the quick display of the RECEIVED ART NET packets, via the 4 keys below it, are possible the settings of the chip type to check for both ports, the speed of sending data, its IP, etc. For each SPI there is a signal LED that indicates the status of a stored show in play or connected to ART NET, and the button below can easily change the mode. The TREX BIS is designed for din bar mounting, or via wall fastening holes, you can also mount it in an ip65 box for outdoor application.





Trex Bis ART NET to SPI converter 2 channel

TrexBis



Connector location and electrical Trex bis

Technical specification

Power supply 12-48vdc 140ma@24vdc

2 Ethernet interface 10/100 Base T

2 synchronous port SPI

Clock output speed 500Khz-4Mhz

Frame Rate 60fps

Universe supported 0-32767

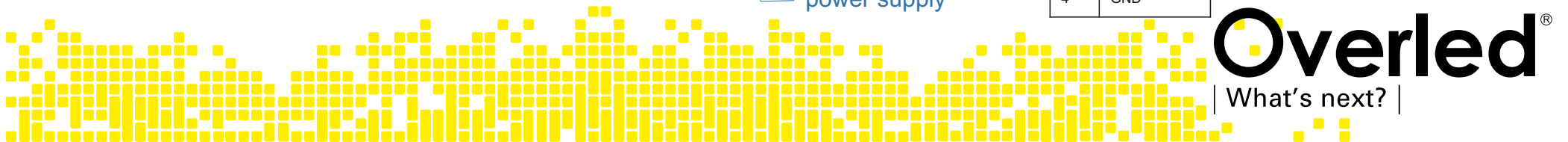
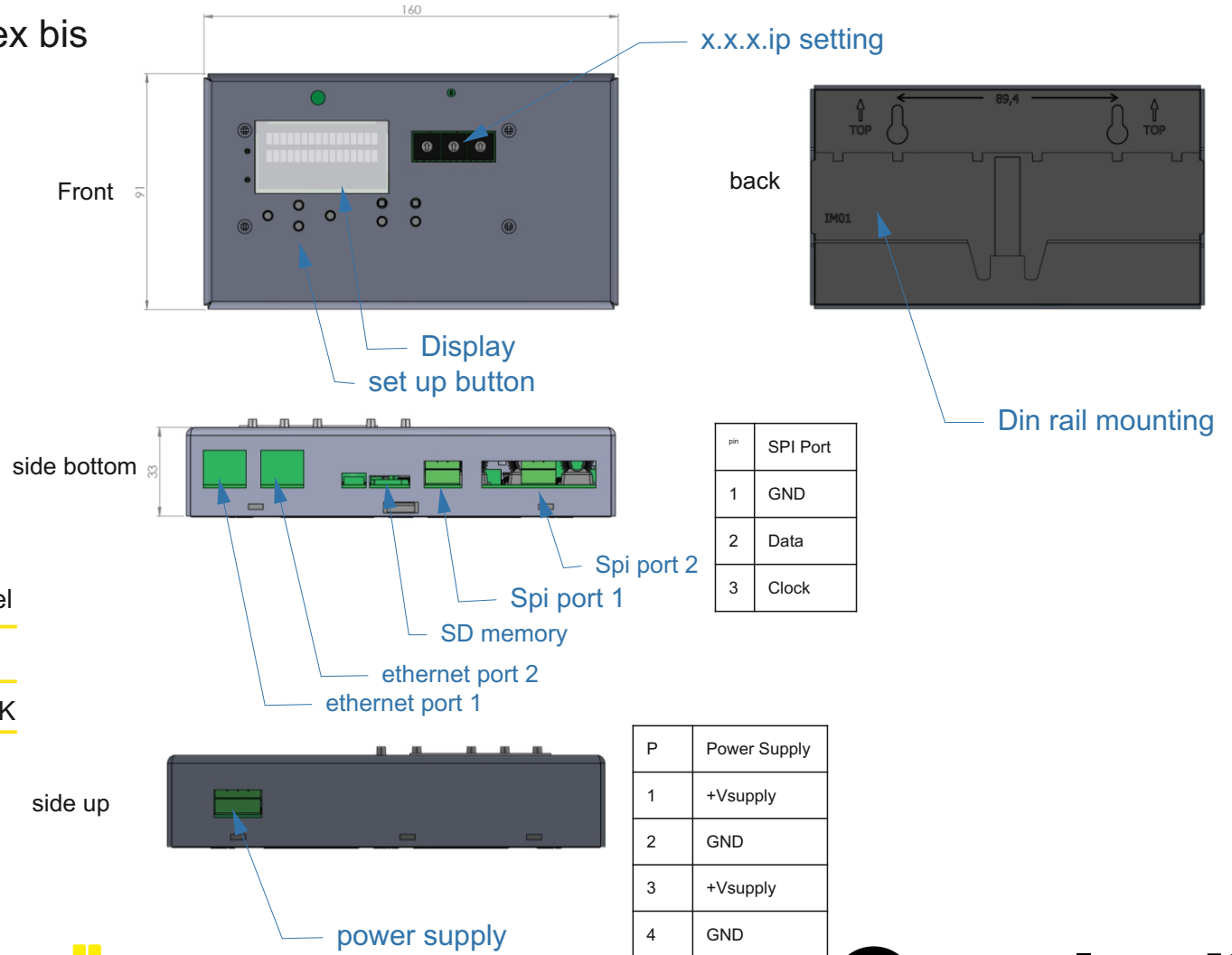
Protected SPI

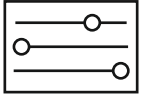
SD up to 4gb for cue memory

Max number of controllable Pixel 1024 per channel

Max operating temperature -20/+85 hr70% IP20

SPI Compatible with chip Macroblock, WS, and SK





Trex Bis ART NET to SPI converter 2 channel

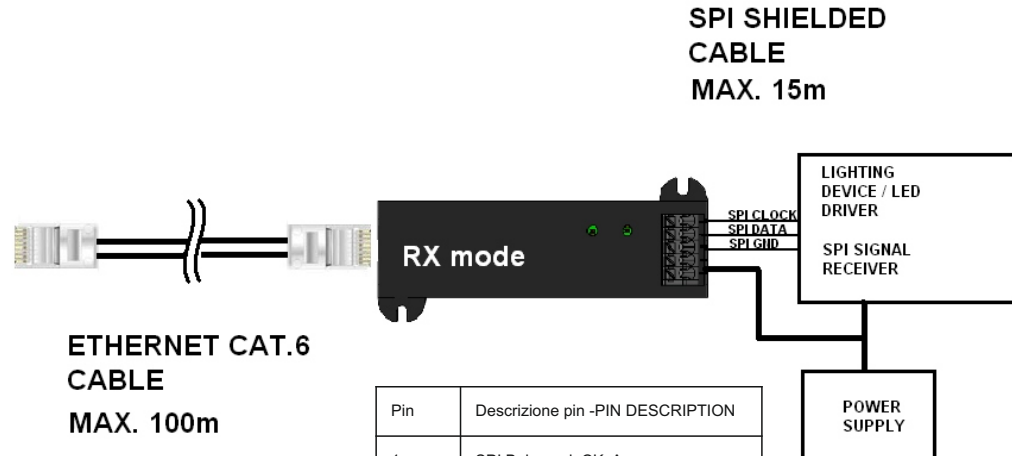
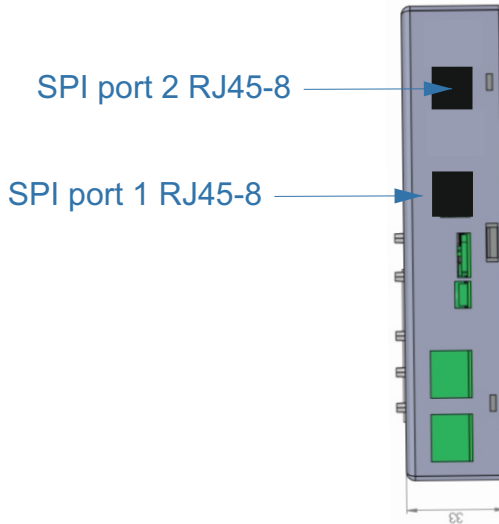
TrexBis



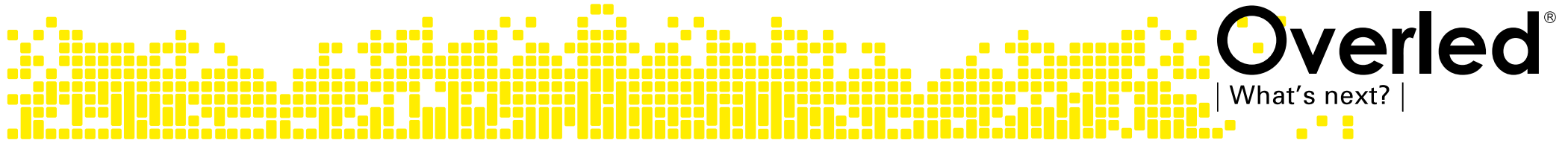
Wiring Trex bis Rj45 .

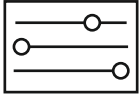
Il Trex-Bis RJ, utilizza linee di trasmissione dati bilanciate per estendere il cavo di trasmissione SPI fino a 150 metri utilizzando un cavo di rete ethernet, questo con il modulo SPI Extender che riconverte in modo sbilanciato e isolato i segnali SPI pronti per essere inviati alla lampada. Questo permette di utilizzare i Trex bis o pro distanti dalla lampada e di isolare la comunicazione, l'alimentatore lampade deve essere vicino alle stesse come da loro specifica. In caso la distanza alle lampade sia sotto i 15 metri si può utilizzare l'uscita del connettore RJ45, 7 e 8.

The Trex-Bis RJ, uses balanced data transmission lines to extend the SPI transmission cable up to 150 meters using an ethernet network cable, this with the SPI Extender module that reconverts in an unbalanced and isolated way the SPI signals ready to be sent to the lamp. This allows you to use the Trex bis or pro far from the lamp and to isolate the communication, the lamp power supply must be close to them as specified by them. If the distance to the lamps is below 15 meters, you can use the RJ45 connector output, 7 and 8.



Pin	Descrizione pin -PIN DESCRIPTION
1	SPI Balanced CK A
2	SPI Balanced CK B
3	SPI Balanced DATA A
4	GND
5	GND
6	SPI Balanced DATA B
7	SPI Unbalanced CK
8	SPI Unbalanced DATA





Trex Bis ART NET to SPI converter 2 channel

TrexBis



The T-Rex-bis is equipped with the following peripherals:

- Pushbutton and RGB status led for each output channel;
- 16x2 characters display with 4-buttons keypad;
- 3 digit contraves for least significant byte IP address setup.

Channel's status led colors:

Flashing Light Red: No data for this Universe: internally generated DMX framerate;

Flashing Light Green: ArtNet data is being received and processed for this Universe;

Solid Light Red: No data for this Universe, sd-card PLAY / REC in progress;

Solid Bright Red: The associated button is pressed;

Flashing Magenta: ArtNet data is being received and recorded to sd-card;

Flashing Cyan: Data is played back from sd-card;

Solid Blue: ArtNet data has been received and awaits to be processed in sync;

Channel's Buttons:

If an sd-card with a recorded sequence is inserted in the slot, pressing the first button (channel one,

leftmost) for at least 2 seconds will start the Playback.

The channels involved will depend on the data recorded in the sd-card.

If the second button is also pressed, the device will start recording instead of playing.

To exit Playback / Record mode, shortly press the first button again.

Display:

The display shows the following information:

- SD-Card size (or "noSDC" message if no sd-card is detected) on the upper left corner;
- Art-Net packet counter in the middle upper line;
- Real time frames per seconds on the upper right corner;
- Ethernet link status (L14 = OK) in the lower left corner;
- Total ethernet packets received in the middle lower line;
- Ethernet reception status timeout (steady if the device is receiving packets).

Display's KeyPad:

Firmware Version:

Press the RIGHT button to display this information.

SPI Device type / SPI clock speed / number of universes selection:

Press the DOWN button to display the current settings.

Hold the DOWN button and press the UP button to cycle device type (DDS900, DDS1019, etc)

Hold the DOWN button and press the LEFT button to cycle the SPI clock speed;

Hold the DOWN button and press the RIGHT button to change the number of universes per channel

IP Address / ArtNet port / Starting Universe number:

Press the LEFT button to display these information.

If the RIGHT button is pressed while the LEFT button is held down, the factory defaults will be loaded.

WARNING – there is no confirmation page.

The UP button displays internal working data, useful for assistance requests.

Contraves:

The contraves allows setting the least significant byte of the device's IP address.

The remaining three most significant bytes should be programmed by ArtNet Protocol.

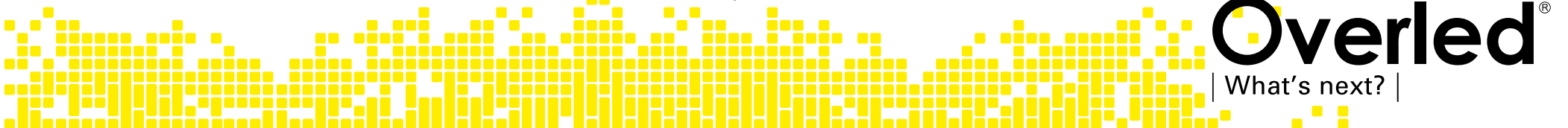
Example: Device's IP is 10.0.0.XXX; the left side contraves is set on '1'; the middle contraves is set on '9'; the right side contraves is set on '2'. The resulting IP Address will be 10.0.0.192.

Boot:

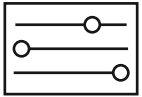
When the power is applied, the rightmost led will show a multicolor shade.

This happens while the system is booting or during firmware upgrade.

If the device stands in this condition indefinitely, the firmware is missing.



Overled[®]
| What's next? |

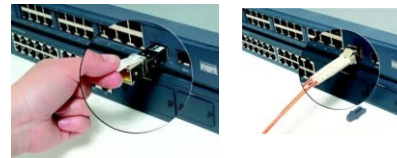
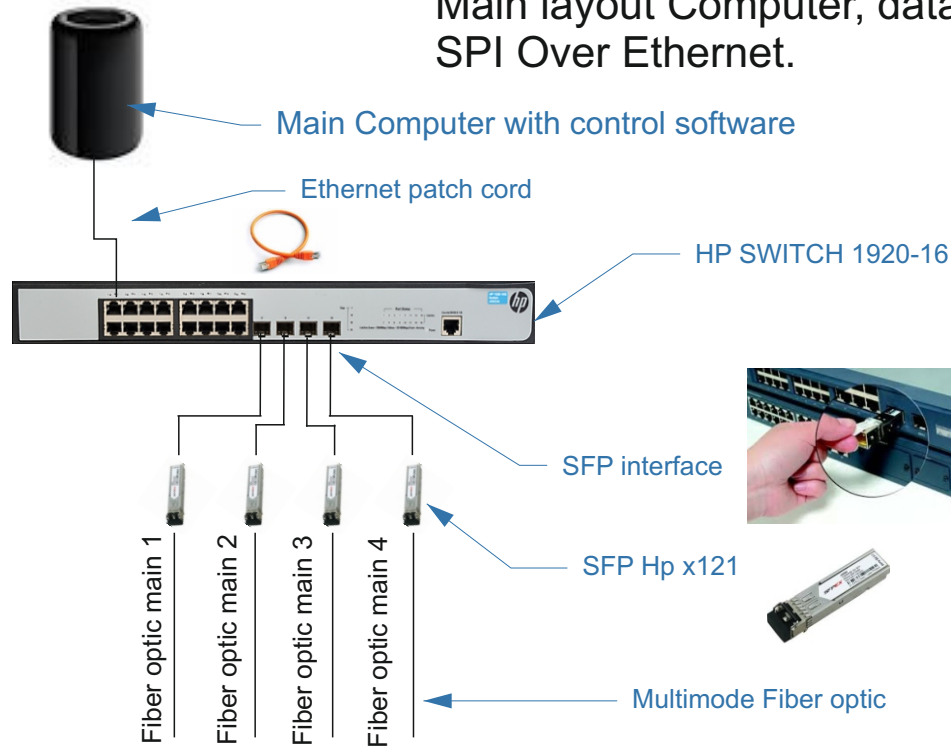


Trex Bis ART NET to SPI converter 2 channel

TrexBis



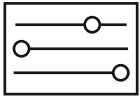
Main layout Computer, data center fiber optic BUS for longer data distribution, SPI Over Ethernet.



Multimode SFP

Multi-mode fiber (MMF) uses a much bigger core and usually uses a longer wavelength of light. Because of this, the optics used in MMF have a higher capability to gather light from the laser. In practical terms, this means the optics are cheaper. The common multimode SFPs (MMF SFPs) work in 850nm wavelength and is only used for short distance transmission reaching 100m and 500m. Though it's not able to transport for long distance, it can transport many kind of optical signals. Their color coded bale clasp and color arrow on label are black and the used fiber optic patch cord is usually orange.

Buffer/jacket color	Meanings
Yellow	Single-mode optical fiber
Orange	Multi-mode optical fiber
Aqua	10 Gig laser-optimized 50/125 µm MM optical fiber
Grey	Outdated color code for MM optical fiber
Blue	Sometimes used to designate Polarization-Maintaining optical fiber

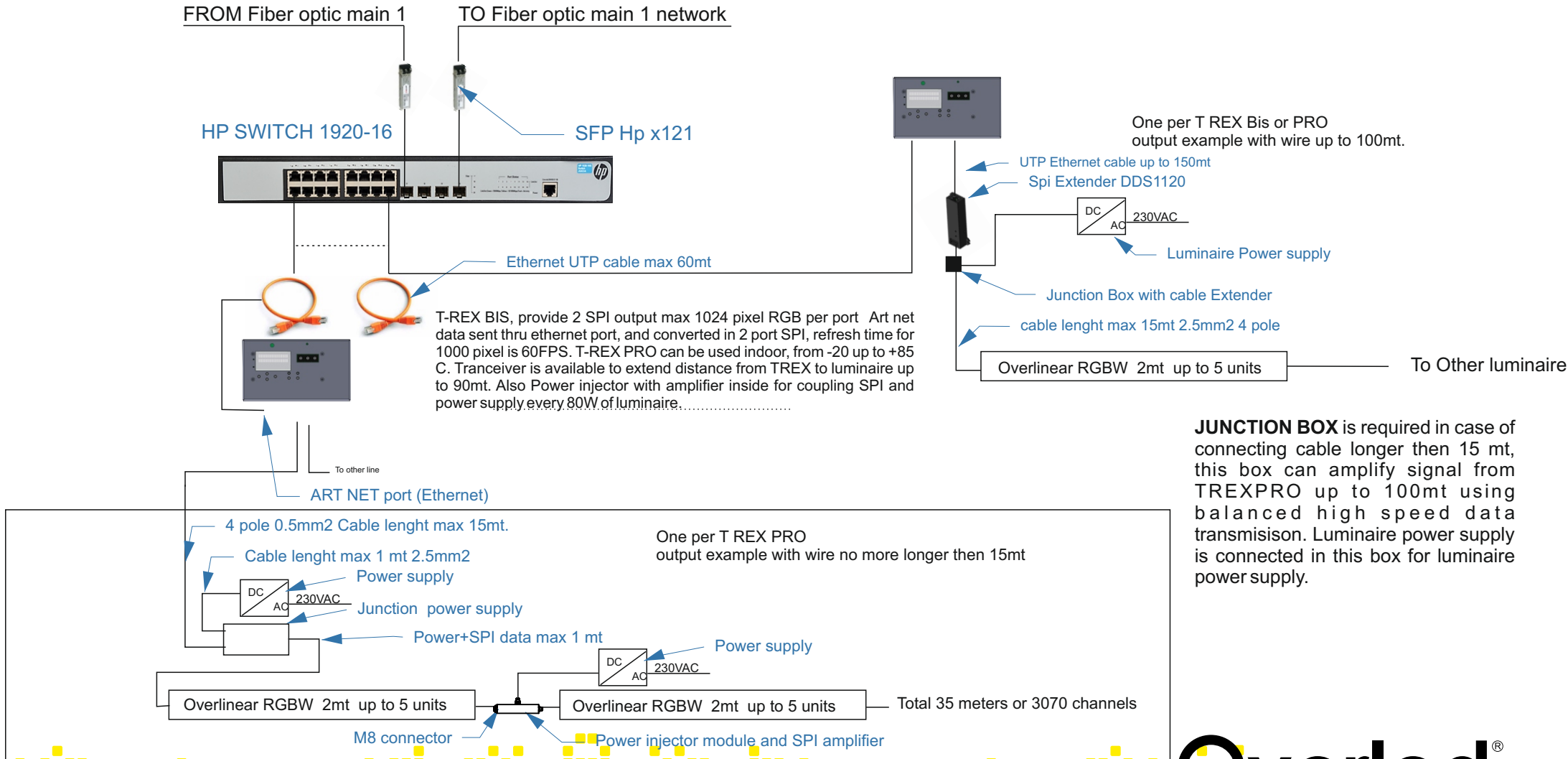


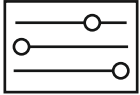
Trex Bis ART NET to SPI converter 2 channel

TrexBis



Main layout of 1st Main fiber optic BUS and overlinear RGBW led bar





Trex Bis ART NET to SPI converter 2 channel

TrexBis



Junction BOX SPI

Junction BOX is used as cable extender from TREX PRO to first luminaire, this unit need power supply that used for luminaire, the voltage range is 12-48vdc, max current 150W, Ip67 connectors are provided for power supply and luminaire. The cable from Junction box and luminaire must be less then 15mt, and cable section 2.5mm, for power supply and data signal.

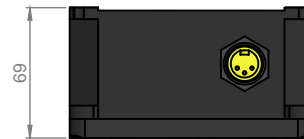
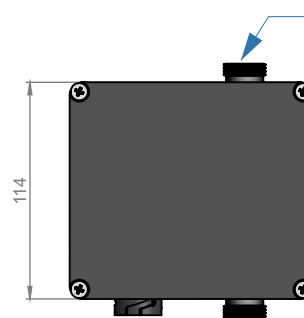
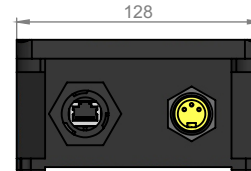
The box housing is die cast Ip65 rating.

Ambient temperature -25/80 degree C.

Power consumption of Junction box @24vdc 200mA

Connector max current 6A

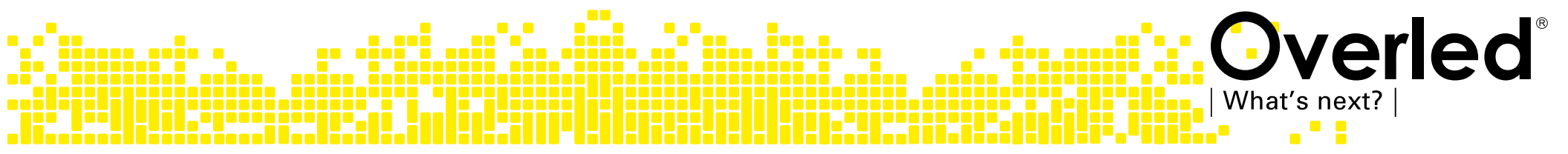
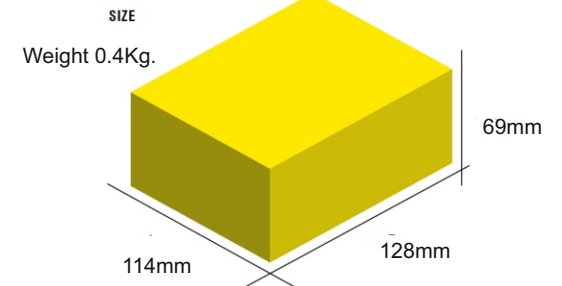
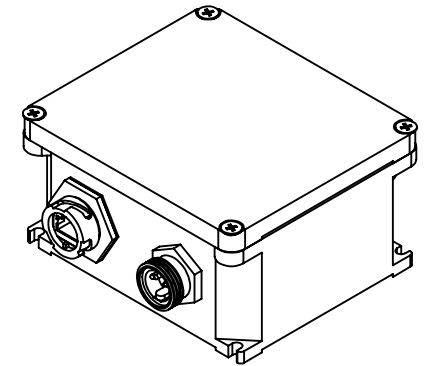
UTP Ethernet cable lenght max 100mt

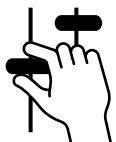


To SPI luminaire power supply included

To Trex pro using UTP shielded cable

Power in 24vdc or 48vdc max 200W



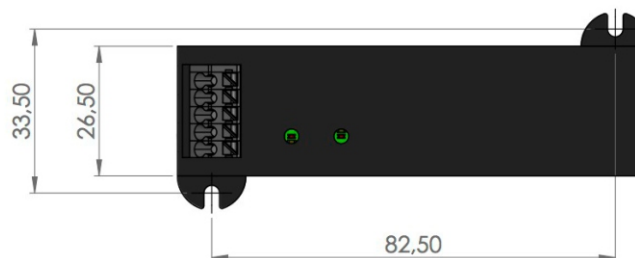
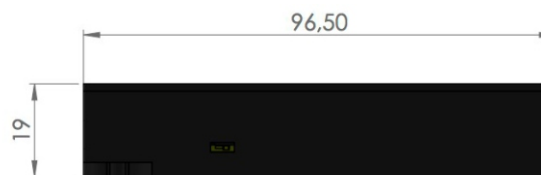
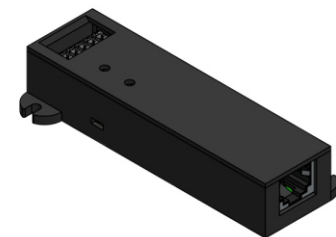


CONTROLLER SPI Extender

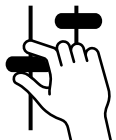
DDS1120

MADE IN ITALY

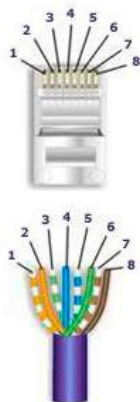
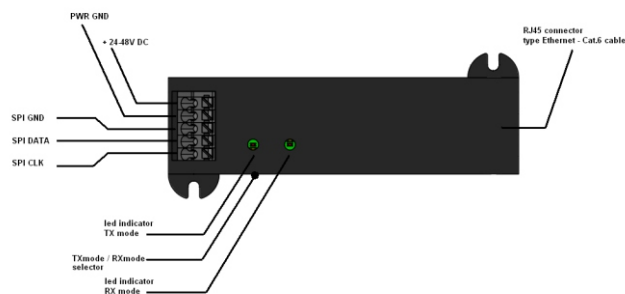
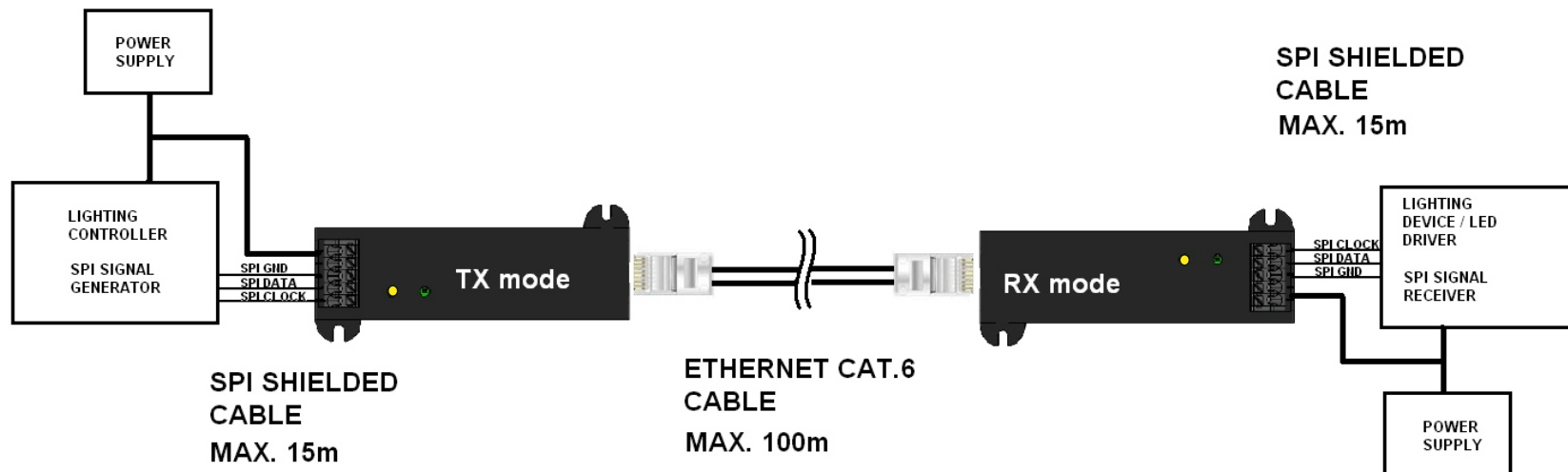
DDS1120 è un amplificatore di segnale SPI (Synchronous Peripheral Interface). Questo amplificatore permette di estendere il segnale SPI Bilanciato o Sbilanciato fino ad un massimo di 100/150 metri, garantendo la qualità del segnale trasmesso. Può essere collegato al Trex Pro oppure Trexbis o DDS11062, se il segnale da amplificare è di tipo Bilanciato quindi abbiamo A e B per SPI Clock e per SPI Data, allora è necessario un solo dispositivo DDS1120, in caso il segnale non lo sia allora si utilizzano due dispositivi uno in modalità di trasmissione e uno in ricezione, lo switch sul lato a seconda della posizione fa diventare trasmettitore e ricevitore lo stesso modulo, lo stato se TX o RX è chiaramente indicato dai led sul contenitore. Il cablaggio tra due moduli estensori si fa con cavo Ethernet cat 6, connettore RJ45-8 Tipo Patch, non utilizzare cavi Cross. La apposita morsettiera con molle blocca cavi permettono la connessione con la lampada SPI oppure il trasmettitore SPI Master. Fare attenzione a non collegare Ethernet sul connettore RJ45-8 non è compatibile e potrebbe danneggiare i dispositivi.



DDS1120 is a Synchronous Peripheral Interface (SPI) signal amplifier. This amplifier allows you to extend the Balanced or Unbalanced SPI signal up to a maximum of 100/150 meters, ensuring the quality of the transmitted signal. It can be connected to the Trex Pro or Trexbis or DDS11062, if the signal to be amplified is of type Balanced so we have A and B for SPI Clock and SPI Data, then only one DDS1120 device is needed, in case the signal is not then two devices are used one in transmission mode and one in receiving mode, the switch on the side depending on the position makes the transmitter and receiver in the same module, the state if TX or RX is clearly indicated by the LEDs on the box. Wiring between two extender modules is done with cat 6 Ethernet cable, RJ45-8 Patch connector, do not use Cross cables. The special connectors with cable lock springs allow connection with the SPI lamp or the SPI Master transmitter. Be careful not to connect Ethernet on the RJ45-8 connector is not compatible and may damage your devices.

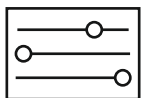


Wiring SPI

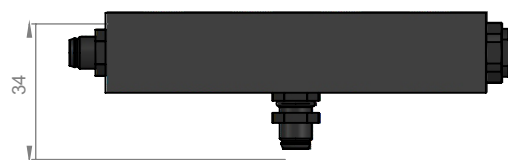
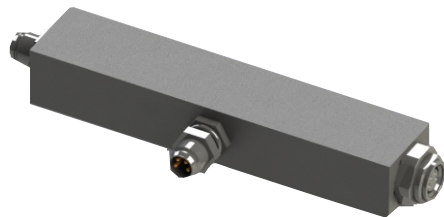


(top view)

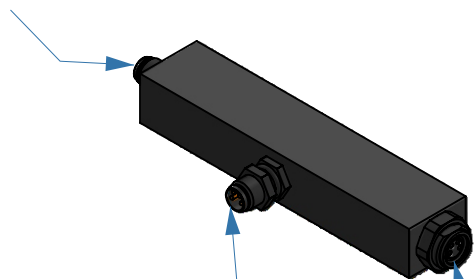
N° pin	Descrizione
1	Clock Sign. A
2	Clock Sign. B
3	Data Sign. A
4	Gnd
5	Gnd
6	Data Sign. B
7	n.c.
8	n.c.



Power injector in ip65 boxed



To next luminaire



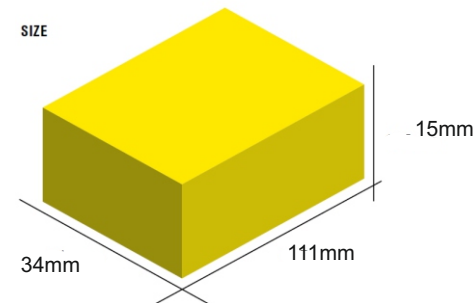
Input Data signal from luminaire

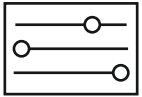
Power supply input

Power Injector is used for coupling to power supply a new line of luminaire in daisy chain, amplifying data and clock signal from the previous luminaire to the next.
This module is required every time a power supply is needed to extend luminaire line, the number of meter depend on the luminaire specification, and the maximum controllable channels from TREXPRO.

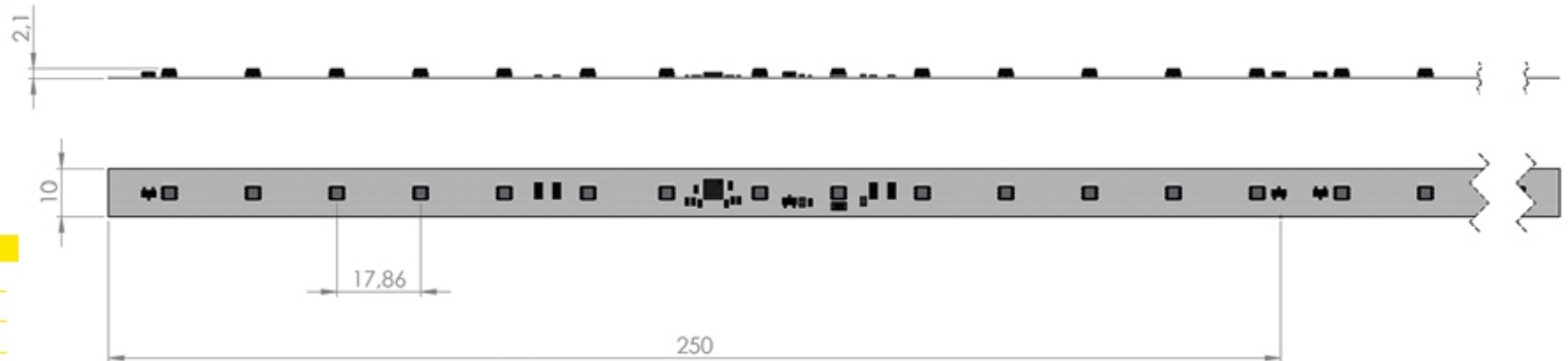
The box housing is plastic mould Ip65 rating.

Ambient temperature -25/80 degree C.
Power consumption of Junction box @24vdc 100mA
Connector max current 4A m8 type
Power supply input 12 up to 48Vdc.





Overlinear RGB FLEX STRIP led with SPI for Trex Application



TECHNICAL SPECIFICATION

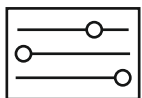
	unit	Typical
ELECTRICAL		
Power supply	Vdc	24
Total current	A	1,1
Total power	W	26
Current per meter	A	0,22
Power per meter	W	5,5
THERMAL		
Operating Temperature TC	C°	75
Life Time (25C° PCB surface)	h/24	55000

	unit	Typical		unit	Typical
OPTICAL			MECHANICALS		
Led per meter		56	Width	mm	10
Led model		3528	Lenght	mt	4,5
Light emission angle		120	Cutting unit	mm	250
Pixel per meter		4			Max
Luminous efficiency	W/m	32	Pull Force	N	1
Luminous intensity per meter/Red	cd/mt	33	Pelling resistance	N/mm	0,8
Luminous intensity per meter/Green	cd/mt	55	Flexible resistance	Cycles	8
Luminous intensity per meter/Blu	cd/mt	15	Max curve	mm	100

DDS900-SPI is a 5,5 W meter led strip with 56 led 3528 RGB per meter. DDS900-SPI for MBI use SPI protocol to control each led individually. To produce our indoor flexible LED strips, we use RGB high quality LEDs, gold plated flexible double side PCB and constant current control inside the LED strip. Thermal conductive adhesive tape guarantees perfect heat transfer to the mounting surface. All of our product features guarantee extra long lifetime and stable performance. Our flexible LED light strips are designed for long term professional lighting applications and perfectly fit in any linear applications.

This Flexible strip led can be fitted in silicone extrusion tube 1515, up to 5 meters.





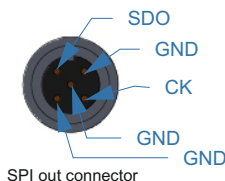
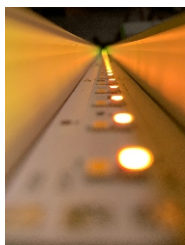
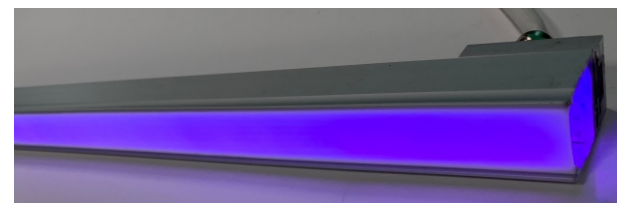
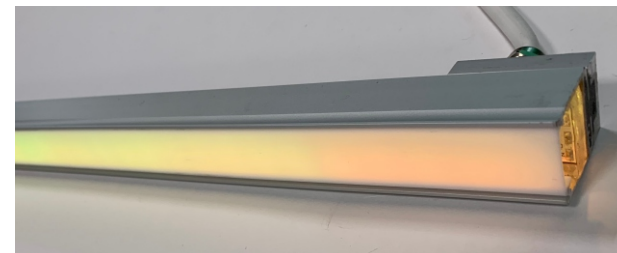
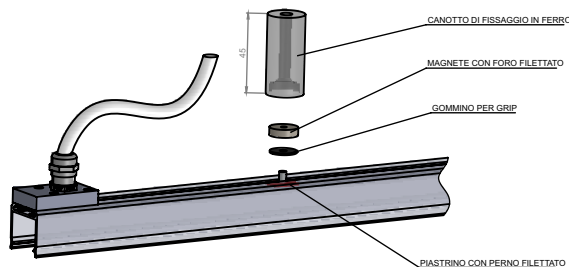
Overlinear Aluminium bar RGBW led with SPI for Trex Application

Overlinear, it is a LED bar controlled by pixel of 9cmt RGBW, 14w with SPI interface control, connector for input and for output is provided on the luminaire, magnetical system is available for easy mounting on the installation. Each module it work with Scramble PWM, grey scale curve, hi frequency per second available up to 60fps.

Standard Size available :

- 960 mm
- 1440 mm
- 1920mm

Aluminium Body anodisation color silver,black,red,deep silver, blue. Painted on request.



Electrical:

Power supply 18-26vdc

Power consumption 15W

Data in and Clock in signal 5vdc protected against miswiring

Data out and Clock out regenerated 5vdc

Connector ip67 max current 6A.

Cable output side or bottom available

Plastic cover satinated or Resin Doming

Ambient temperature range -10/85 degree Thermal protection provided.

