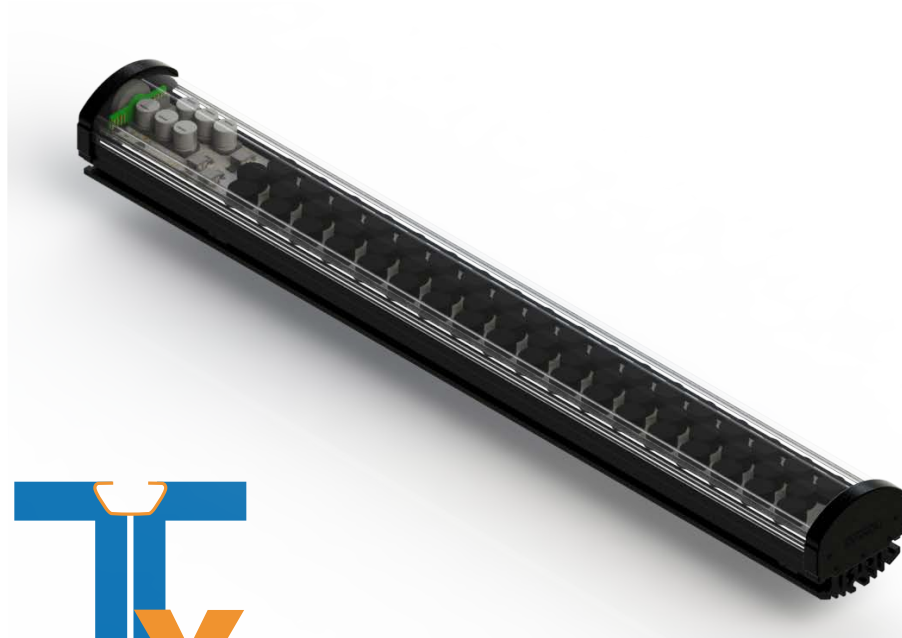


TXFL Series Linear Front Lights



Advanced performance for machine vision tracking and traceability.

The TX Series Difference

The TXFL Series front lights provide superior performance for the most demanding machine vision applications where high intensity strobing toward objects at a farther distance are required. Utilizing three rows of bright, highly uniform, LEDs these lights implement integrated driver technology that delivers instant start-up and flicker-free operation. The TXFL series can be used both in DC continuous operation, or with 8x optical pulse-follow strobing.

- ◆ **Excellent for warehouse logistics** where high-intensity strobe is a must.
- ◆ **New, integrated driver design** - continuous DC with 8x optical strobe all-in-one
- ◆ **Maximum installation flexibility** with T-slot L-brackets
- ◆ **High-uniformity and brightness**
- ◆ **Multispectral, UV, IR and SWIR** options available.

Features

- Visible, UV, IR, SWIR, Single-Color, Multispectral
- Smart driver with continuous DC operation, dimming, and strobe capability.
- Available in 150 mm increments up to 900 mm
- Options for IP67, multiple lens types, diffusers and polarizers



TABLE 1: PART NUMBER KEY

Contact your Metaphase Sales representative for custom versions (intensity, uniformity, wavelengths, sizes, etc).

Family	Model	Active Length	Color	Diffuser/Cover	Polarizer	Lens	Connector	IP Rating
TXFL	XX	XX	XXXXX	XXXX	XX	XX	XXX	XX
	1B - continuous w/ dimming	List number of 25mm segments. Available in	W (White, 6500K) R (Red 630nm) G (Green 530nm) B (Blue 470nm)	Blank for D300* CC13 - Clear cover w/ diffuser	Blank for no polarizer P0*	L12 L16	Blank for 8 - pin M12	Blank for no IP rating. IP - IP67
	1C - continuous w/ pulse follow	150 mm increments, i.e. 6, 12, 18, 24, etc.	RGB (Red Green Blue) UV395 UV365 IR940 IR850	*D300 - standard UV pass / diffuser	P9*	L30 L50		
	2B - IP-rated, continuous w/ dimming	*NOTE 1	IR05 (SWIR 1050) IR20 (SWIR 1200) IR30 (SWIR 1300)		*P0 - film perpendicular to long heatsink *P9 - film parallel to long heatsink		*NOTE 2	
	2C - IP-rated, continuous w/ pulse follow		IR45 (SWIR 1450) IR55 (SWIR 1550) IR65 (SWIR 1650)		*Polarizer requires CC13 cover			

***NOTE 1** - Initial release of the TXFL includes active area lengths up to 450 mm (up to segment "18"). Please consult your Metaphase representative for additional length options.

***NOTE 2** - Due to increasing current ratings as the TXFL product length increases, some configurations may require the use of our 8-pin Multi-con connector, or flying leads, to provide power to the light. Please consult your Metaphase Sales Representative for additional current draw and connector options.

CABLE OPTION: DC CONTINUOUS (B VERSION)

CAB-FM12FL-3M	3 METER EXTENSION CABLE, FEMALE M12 A-CODE 5-PIN TO FLYING LEADS
CAB-FM12FL-5M	5 METER EXTENSION CABLE, FEMALE M12 A-CODE 5-PIN TO FLYING LEADS
CAB-FM12FL-10M	10 METER EXTENSION CABLE, FEMALE M12 A-CODE 5-PIN TO FLYING LEADS
CAB-FM12FL-15M	15 METER EXTENSION CABLE, FEMALE M12 A-CODE 5-PIN TO FLYING LEADS

CABLE OPTION: DC WITH STROBE (C VERSION)

CAB-CX2P6SFL-3M	3 METER EXT CABLE, FEMALE MULTI-CON-X 2-PIN POWER, 6-PIN SIGNAL TO FLYING LEADS
CAB-CX2P6SFL-5M	5 METER EXT CABLE, FEMALE MULTI-CON-X 2-PIN POWER, 6-PIN SIGNAL TO FLYING LEADS
CAB-CX2P6SFL-10M	10 METER EXT CABLE, FEMALE MULTI-CON-X 2-PIN POWER, 6-PIN SIGNAL TO FLYING LEADS
CAB-CX2P6SFL-15M	15 METER EXT CABLE, FEMALE MULTI-CON-X 2-PIN POWER, 6-PIN SIGNAL TO FLYING LEADS

MOUNTING BRACKET KIT

KIT-TXMB-01	QUANTITY (2) END CAP SWIVEL MOUNTING BRACKET KIT, W/ PRINTED ANGULAR SCALE
KIT-TXMB-02	QUANTITY (2) SLIDE SWIVEL MOUNTING BRACKET KIT, W/ PRINTED ANGULAR SCALE
KIT-TXMB-03	QUANTITY (2), M6 STUD MOUNTING BENT BRACKET KIT
KIT-TXMB-04	QUANTITY (3), JOINING PLATE BRACKET KIT



General	
Operating Temperature:	0-40°C, 90% RH, non-condensing
Storage Temperature:	0-70°C, 90% RH, non-condensing
Compliance:	RoHs, CE, IEC 62471
Photobiological Risk Factor:	Contact Metaphase for wavelength specific testing.
Electrical	
Input Voltage:	24VDC+/-5%
0-10V Dimming Control:	Off: 0V Turn-on Threshold: 0.5V 100% Intensity: 10V Max Allowance Voltage: 24V Input Impedance: 14kΩ
Trigger Input (5 KHz Max. Trigger Rate)*:	PNP Voltage Enable > 2.4V NPN Voltage Enable < 0.9V Min Trigger Pulse: 10 μs Trigger Turn-on Delay: 10 μs Trigger Turn-off Delay: 20 μs Input Impedance: 14kΩ
<i>*Note: Information above applies only to units designated with a trigger.</i>	
Overdrive:	Output: 8x Pulse Width: < 2ms Duty Cycle: < 10%
Mechanical	
Weight:	0.1kg/25mm of length Ex: TXBR3-24 = .1 x 24 = 2.4 kg

Light Operation (1C versions):

Continuous Mode: The light will illuminate, at full intensity, when 24VDC is applied to the +24V line, 10-24VDC is applied to the 0-10V dimming line, and a continuous voltage > 2.4VDC (up to 24V max) is applied to the trigger line.

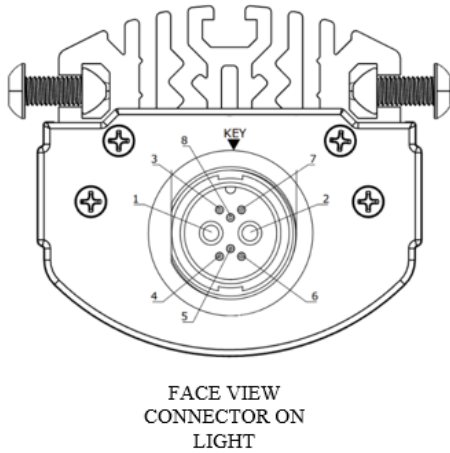
The light can be dimmed by proportionally applying a voltage less than 10VDC to the 0-10VDC intensity control while the trigger input requirements are satisfied. User can toggle the light ON/OFF at DC level by turning ON/OFF the 0-10VDC control line.

Strobe operation: Trigger input line uses a "follow me trigger" design where the light will strobe at 8x overdrive intensity when a pulse is applied to the trigger input for a duration between 2.5us and 2ms, with a duty cycle less than 10%. For trigger pulses that have a duration longer than 2 ms, and/or duty cycle higher than 10%, the light will continue to strobe at 1X intensity (which is equivalent to continuous mode intensity). Strobe mode* also uses 0-10VDC control line where the light will be at FULL intensity when any voltage from 10-24VDC is applied to this control line and proportionally dimmer for voltages less than 10VDC.

**Note 1: 4x overdrive only available with dimming capability.*

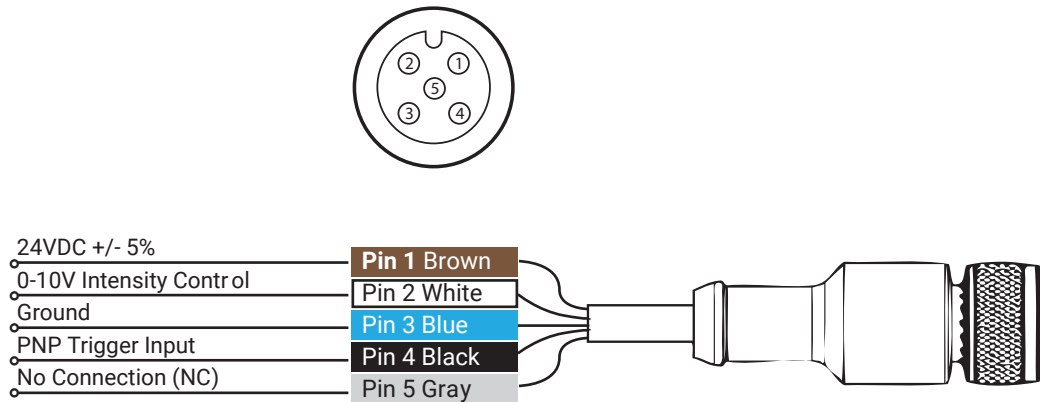


FIGURE 1: TXFL Wiring diagram for Multi-Con-X connector



AWG12 PIN#	FUNCTION
2 (RED)	+24VDC
1 (BLACK)	GROUND
AWG26 PIN#	FUNCTION
4 (BLACK)	TRG in PNP/Rise
7 (WHITE)	0 - 10VDC INTENSITY CONTROL
8 (RED)	0 - 10VDC INTENSITY CONTROL
3 (YELLOW)	0 - 10VDC INTENSITY CONTROL
6 (ORANGE)	0 - 10VDC INTENSITY CONTROL
5 (BLUE)	0 - 10VDC INTENSITY CONTROL

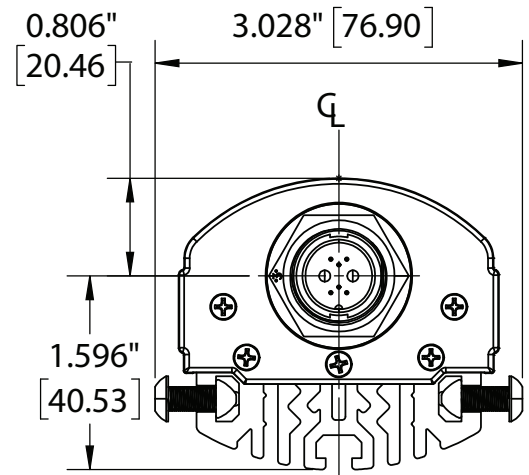
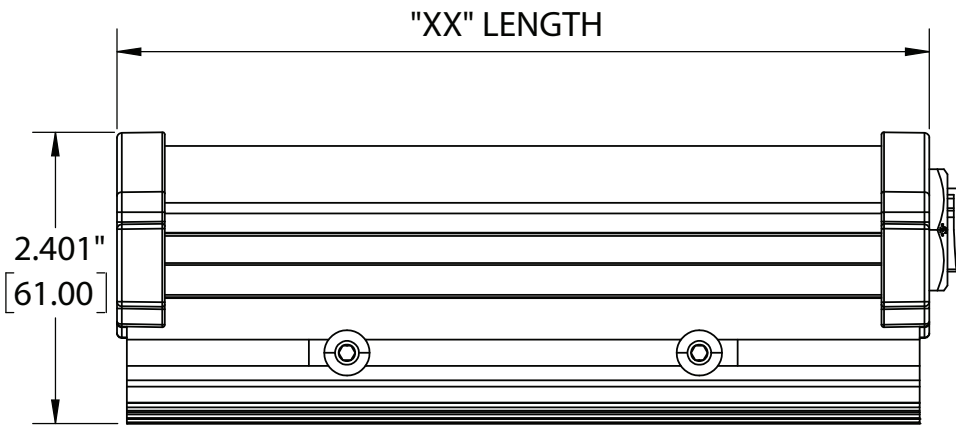
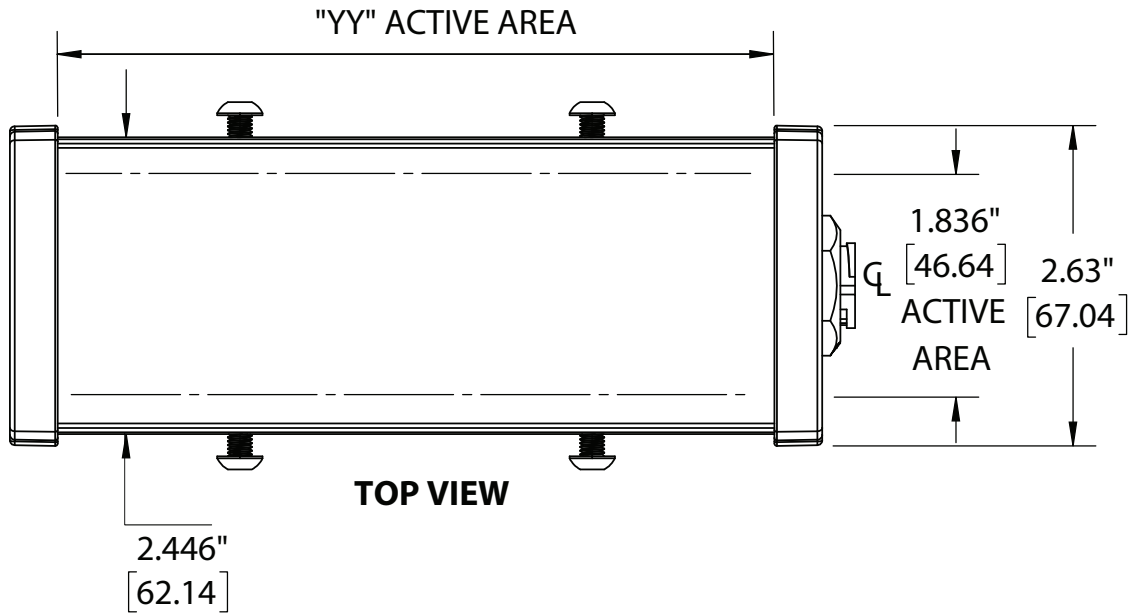
FIGURE 2: TXFL Wiring diagram for M12 5-PIN, A-code, female connector



Note: For continuously ON @ full intensity connect 24VDC power supply to +24V , 0-10VDC and PNP trigger-in inputs.



TXFL OVERALL LENGTH				
Part Number	"XX" Length (mm)	"XX" Length (in)	"YY" Active Length (mm)	"YY" Active Length (in)
TXFL-ASSY-06	245	9.646	150	5.906
TXFL-ASSY-12	395	15.552	300	11.811
TXFL-ASSY-18	545	21.457	450	17.717
TXFL-ASSY-24	695	27.363	600	23.622
TXFL-ASSY-30	845	33.268	750	29.528
TXFL-ASSY-36	995	39.174	900	35.433

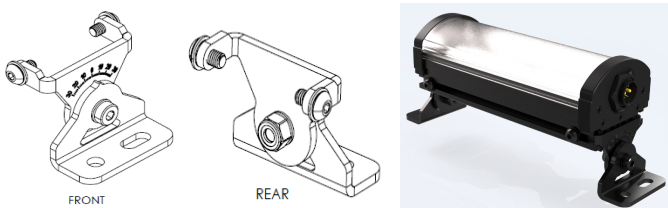




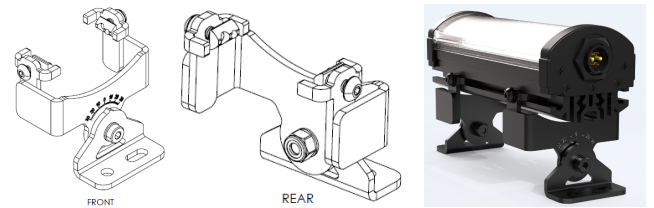
MOUNTING BRACKET KIT	
Part Number	Description
KIT-TXMB-01	QUANTITY (2) END CAP SWIVEL BRACKET KIT W/ PRINTED ANGULAR SCALE
KIT-TXMB-02	QUANTITY (2) SLIDE SWIVEL BRACKET KIT W/ PRINTED ANGULAR SCALE
KIT-TXMB-03	QUANTITY (2) M6 STUD BENT BRACKET KIT
KIT-TXMB-04	QUANTITY (3) JOINING PLATE BRACKET KIT

***NOTE** - All T-nut mounting hardware requires the use of a #3 hex key. On KIT-TXMB-01 and KIT-TXMB-02 a #4 hex key is required for the angle adjustment hardware. **Hex keys are not included with the above mounting kits.**

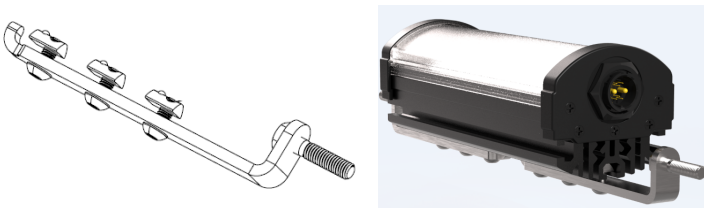
KIT-TXMB-01



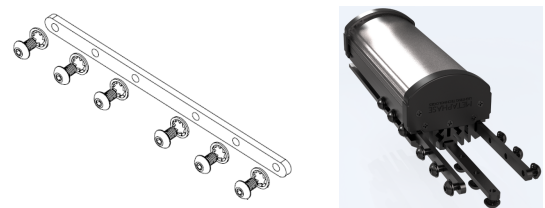
KIT-TXMB-02



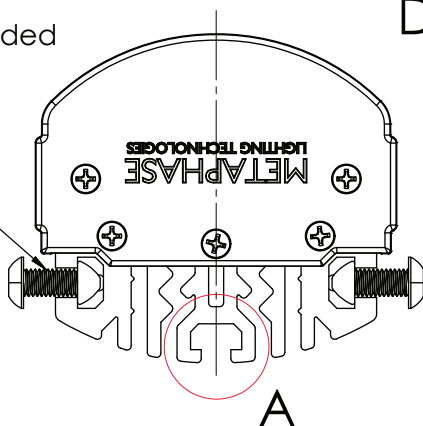
KIT-TXMB-03



KIT-TXMB-04

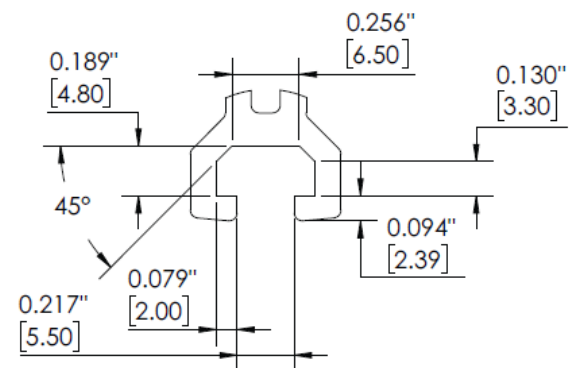


T-Slotted Framing
Drop-in Spring Loaded
Ball Nut, M5
Thread Size-
MC#5537T007



DETAIL A:

SCALE 2 : 1





For nearly two decades, Metaphase Technologies has been developing products that implement “The Quality of Light” through engineering and manufacture of cutting-edge LED illuminators for machine vision, military, and specialty lighting applications.

We're proud of our demonstrated expertise engineering flexible lighting solutions that have facilitated integration into thousands of vision systems designs.

Throughout the world, Metaphase clients enjoy the enhanced automation and image capture benefits of our patent-pending breakthroughs in uniform diffuse high brightness and ultra-brightness LED illumination.

First to implement built-in constant current drivers across multiple product lines, Metaphase continues to synergize cutting-edge LED lighting & control technologies that streamline innovation and increase return on investment.

Made in the USA for nearly 30 years, our versatile designs are continuously updated to incorporate the latest advances in LEDs, thermal management, optics, and electronic technologies to meet the challenging needs of today's global automation and scientific marketplace.

Contact us to see how Metaphase can help with your cutting-edge lighting needs.



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