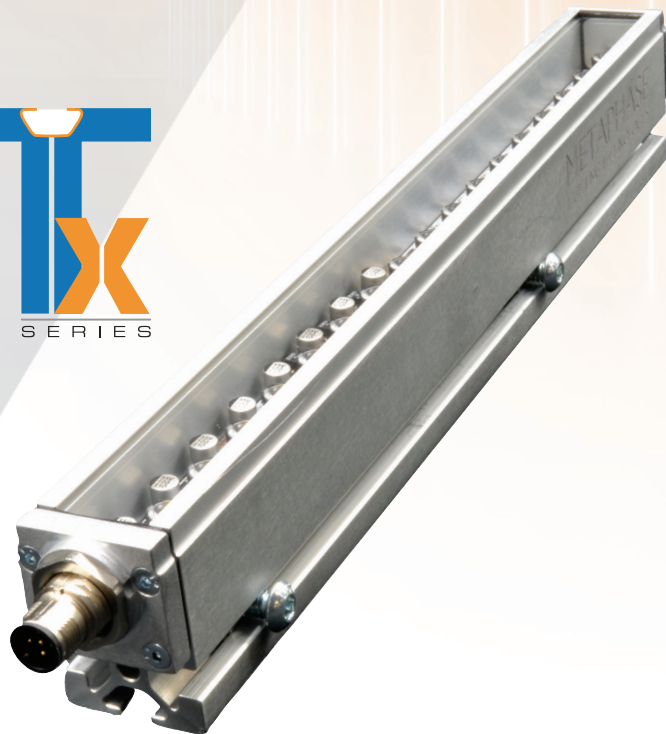


TX Series Barlight



Advanced Performance and Unlimited Flexibility for Machine Vision Inspection, Measurement and Gauging

The TX Barlight Difference

Demanding machine vision applications require superior illumination performance, and the TX Series of Barlights deliver impressive results.

The result is an unparalleled machine vision Barlight solution. High-performance design and an array of features and options facilitate application optimization to deliver exceptional results with maximum flexibility and minimal technical risk.

- ✓ Flexible form factor, multiple wavelengths and variable controls provide endless application options.
- ✓ Available in various wavelengths including R, G, B, RGB, W, UV365, UV395, IR850, IR940, SWIR, multispectral
- ✓ Standard DC with Strobe. Available with ULC-2 controller version
- ✓ Built-in strobing (Follow-Me trigger default)
- ✓ Daisy Chain up to six lights (Version 2A)

Features

- Easy mounting and flexible coupling with 3-side T-slot extrusion
- Low profile, narrow housing (33mm) for greater application flexibility
- Standard version: 24VDC with built-in follow-me strobe. ULC-2 compatibility (-U) version also available
- Standard version is also dimmable, with a high efficiency, constant current driver and built-in strobe
- Bulkhead 5-pin M12 A-code connector(s) for standard version; 4-pin M12 T-code for external driver version
- Optional polarizer in P0 and P90



TABLE 1: PART NUMBER KEY

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

Example Part Number: TXBR1A-12-W-L20

Family	Model ¹	Length	Color ^{2,3}		Driver ⁴	Polarization ⁵	Lens ⁶	Diffuser ⁷
TXBR	XX	XX	XXXXX		X	XXX	XXX	XX
	1A (Single Connector)	12 (12x 25mm sections)	RGB (Red Green Blue)	IR850 (IR850)	Blank for Default (24VDC with follow-me trigger)	Blank for no polarizer	NL (No Lens)	Blank for Default
	2A (Dual Connector)		W (White, 6000K)	IR940 (IR940)		P0	L20 (20deg full angle)	CC (clear cover)
			IR05 (SWIR 1050)		-U External drive	P90	L35 (35deg full angle)	D2 (single matte)
			B (Blue 470nm)	IR45 (SWIR 1450)				
			G (Green 530nm)	IR55 (SWIR 1550)				
			R (Red 630nm)	IR65 (SWIR 1650)				
			UV36 (UV365)	IR20 (SWIR 1200)			L45 (45deg full angle)	D4 (milky)
			UV39 (UV395)	IR30 (SWIR 1300)				D5 (opal replacement)

Note 1: Model 1A has a single connector; Model 2A has two connectors. Both are available in either Standard (Default) or -U Versions (See Note 4).

Note 2: (24VDC with follow-me trigger) or -U versions (ULC-2 compatible)

Note 3: Contact Metaphase Support for color combinations and other wavelengths.

Note 4: Standard Versions (Default) have 24VDC with built-in follow-me strobe with 5-pin, M12 A-code connector(s). External Drive Versions (-U) have 4-pin, M12 T code connector(s).

Note 5: P0 polarizer perpendicular to heat sink; P90 polarizer parallel to heat sink.

Note 6: Lens options available only for visible wavenlegths.

Note 7: CC (clear cover) is the default for visible if lens selected, and for UV and SWIR. D2 (single matte) is default for visible if no lens selected. Lead times may be extended for non-default diffusers.

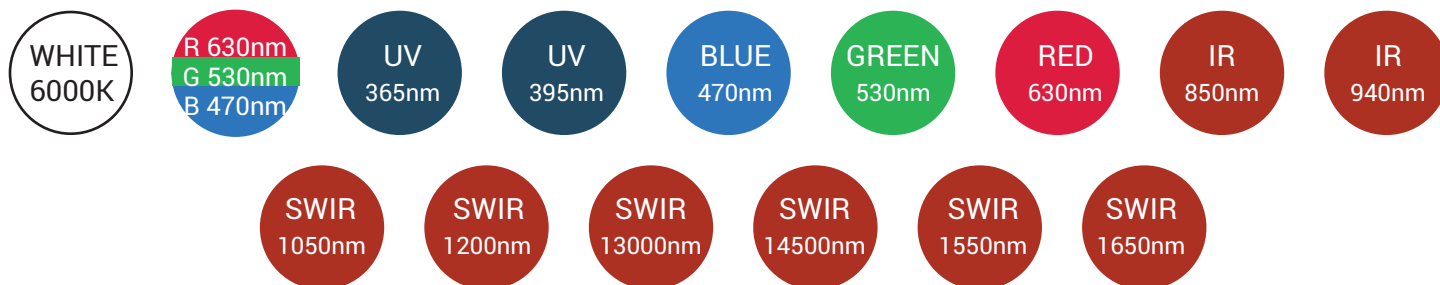
Accessories	Part Number	Description
Standard Version		
DDC Controller	DDC-3	DIGITAL DIMMING CONTROLLER, 3-CHAN 0-10V OUTPUT <i>Note: Requires 24VDC, 1A power supply</i>
3m cable	CAB-FM12FL-3M	
5m cable	CAB-FM12FL-5M	
10m cable	CAB-FM12FL-10M	
U Version		
ULC-2 Controller	ULC-2	UNIVERSAL LED CONTROLLER, TWO-CHANNEL, WITH ULC-2 CONNECTORS <i>Note: Requires 24VDC power supply, 6.7A, to run at full capability</i>
3m cable	CAB-FM12TU-3M - For 1 channel	3 METER EXTENSION CABLE, FEMALE M12 T-CODE 4-PIN TO ONE ULC CONNECTOR, LED POS ON PIN 1&2, LED NEG ON PINS 3&4
3m cable	CAB-FM12T2U-3M - For 2 channels	3 METER EXTENSION CABLE, FEMALE M12 T-CODE 4-PIN TO TWO ULC CONNECTOR, LED POS CHAN A&B ON PINS 1&2, LED NEG CHAN A&B ON PINS 3&4



General	
Operating Temperature	0-40°C, 90% RH, non-condensing
Storage Temperature	0-70°C, 90% RH, non-condensing
Compliance	RoHs, CE, IEC 61000-6-2, 61000-6-4, 61010-1
IP Rating	IP64
Photobiological Risk Factor	See Table on Page 5
Warranty	2 Years
Electrical	
Supply Voltage	24VDC +/- 5%
Current	0.7A x number of lights
Input Impedance	10k Ω /number of barlights
DC Strobe (standard) version	
0-10VDC Dimming Control	Off: 0V
Trigger Input	
NPN	<1V
PNP	>2.5V
Min. Trigger Pulse:	25 μ sec
Max Trigger Rate:	5kHz
Trigger Turn-on delay:	5 μ sec
Trigger Turn-off delay:	5 μ sec
Max. Pulse Width:	2msec
Max. Duty Cycle	10% (to protect light from damage)
Strobing Behavior	
Strobe intensity up to 8x maximum if pulse width < 2ms	
<i>Note 1: 0-10V must be connected to turn light on and to trigger.</i>	
<i>Note 2: Default state is "OFF". Trigger to "ON".</i>	

Optical	
Light Source	LED
Intensity	109,000 Lux (480mW/m ²)
Available Wavelengths	
White (CCT = 6000k)	
UV 365, UV 395	
Blue 470, Green 530, Red 630	
IR850, IR940	
SWIR: 1050, 1200, 1300, 1450, 1550, 1650	
Available Color Combinations	Select either 1 or 3 available wavelengths,
Lifetime	Visible L70 = 75,000 hours
<i>Intensity reference is WHITE CCT = 6000K and narrow lens.</i>	
<i>Please see page 5 for maximum intensities of other wavelengths.</i>	
Mechanical (all units metric)	
Housing	Clear anodized aluminum
Mounting	(4) T-nuts per 12-inch barlight included
Outside Dimensions (OD)	See Drawings on PAGE 6 (Single Connect and Multi-connector)
Active Area Designation	305mm Long, 21mm wide
Dimensional Units	Metric (including all fasteners)
Weight (Kg) (per 12-inch barlight)	1. Single connector: 710g, 1.57 lbs. 2. Double connector: 720g, 1.59 lbs.
Connector	Bulk Head male 5-pin M12A (Standard) 4-pin M12T-code (-U version)

Available Wavelengths





M12 5-pin A-Code Bulkhead connector

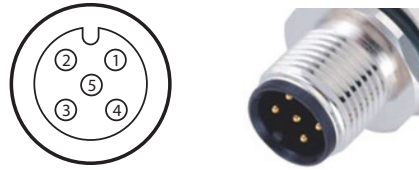
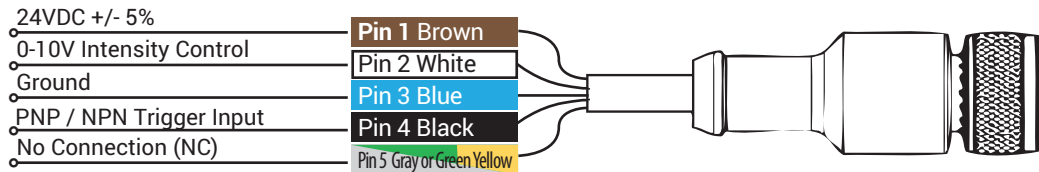


FIGURE 1A: TXBR INTERFACE CABLE, M12 5-PIN A-CODE FEMALE CONNECTOR, CONFIGURED FOR PNP TRIGGER



See Table 1 "Part Number Key" for Cable Part Number by length.

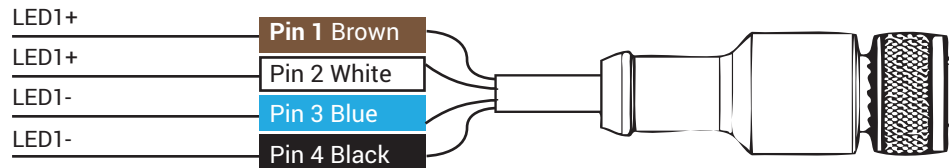
Note: For No Dimming control, connect 0-10V intensity control to 24VDC (maximum intensity without control).
For continuously ON @ full intensity connect 24VDC power supply to +24V , 0-10VDC and PNP trigger-in inputs.

Connector: M12T-code External Driver ((ULC-2(U)) Version

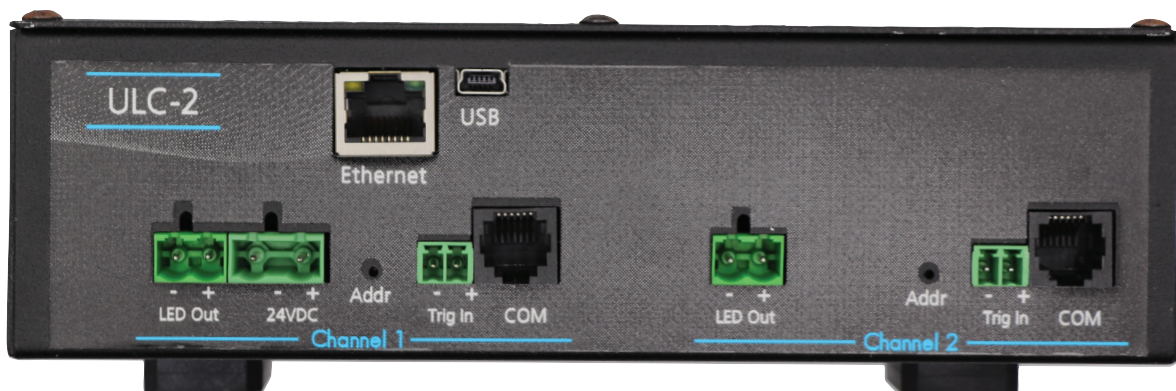
M12 4-pin T-Code Bulkhead connector



FIGURE 1B: TXBR INTERFACE CABLE WITH AN M12 4-PIN T-CODE FEMALE CONNECTOR



ULC-2 CONTROLLER





TXBAR1A-12 SINGLE CONNECTOR

FIGURE 2: TXBR DIMENSIONS TOP VIEW

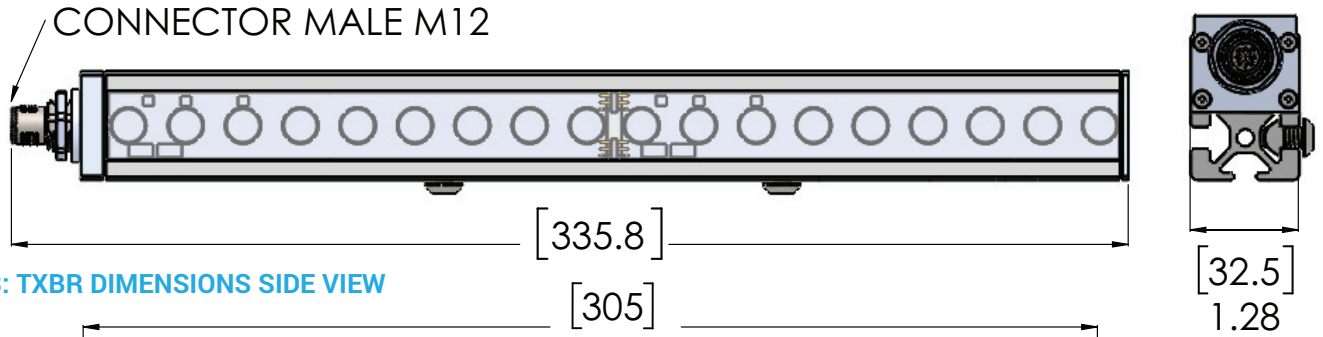
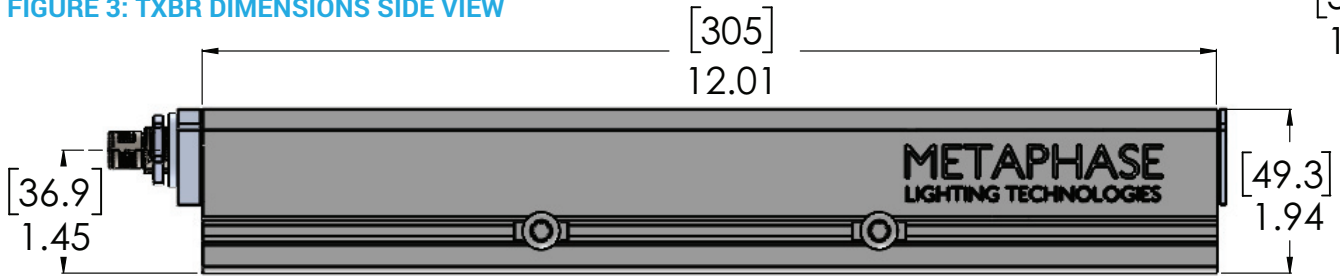


FIGURE 3: TXBR DIMENSIONS SIDE VIEW



TXBAR2A-12 DUAL CONNECTOR

FIGURE 4: TXBR TOP VIEW

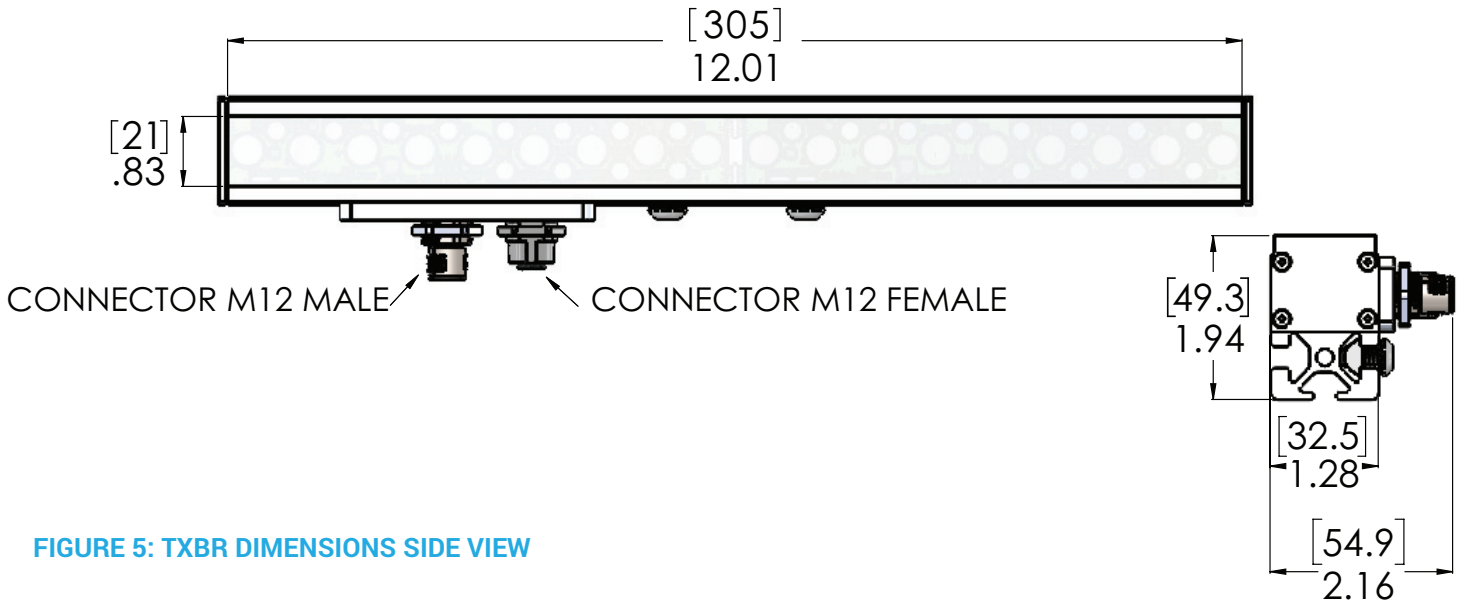
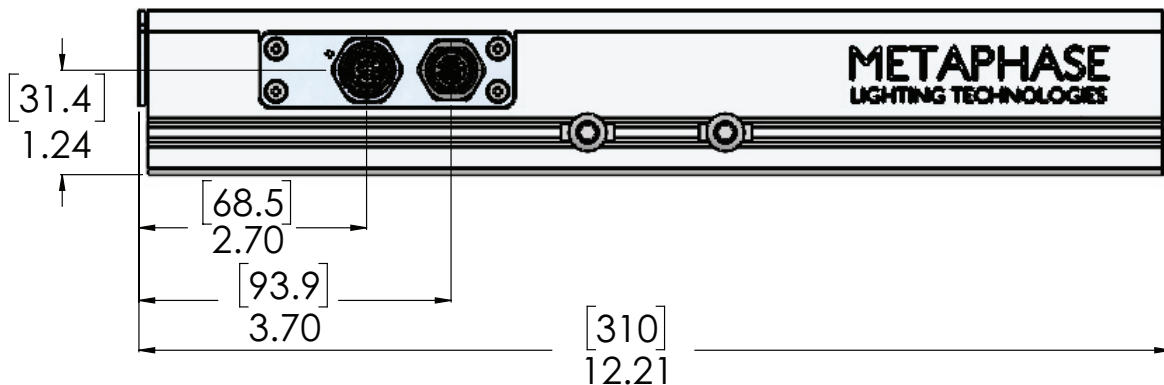


FIGURE 5: TXBR DIMENSIONS SIDE VIEW





For nearly three 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 with engineering flexible lighting solutions that have facilitated integration into thousands of vision systems.

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 increases 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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