

AL1414M-X
SB1414M-X, AL1414C

1.4" (36.35mm) Monochrome & RGB Illuminators



Parameter	Characteristics (dimensions in mm)		
	AL1414M	SB1414M	AL1414C
Aperture Size (±.25)	28.45 x 22.61	28.45 x 22.61	28.45 x 22.61
Aperture (Diagonal)	36.35	36.35	36.35
Body Dimensions	38.35 x 29.21	38.35 x 29.21	38.35 x 29.21
Height	6.75	12.7	6.75
Weight with 12" Wire	11 ± 2 grams	13 ± 2 grams	13 ± 2 grams
Angular Radiation	± 23° FWHM	± 23° FWHM	± 23° FWHM
Operating Temperature	-40° to +85°C	-40° to +85°C	-40° to +85°C

The ALPHALIGHT™ LED Illuminators provide exceptional high performance uniform light, ideal for non-emissive displays. Bright, highly uniform light is achieved through a unique solid state design using Teledyne's patented and proprietary technology. High optical efficiencies significantly optimize LCD and Spatial Light Modulator (SLM) display performance with lower power consumption.

ALPHALIGHT™ RGB (Full color) LED Illuminators are ideal for color field sequential lighting (CFSL) of non-emissive displays.

The ALPHALIGHT™ is capable of operating in wide temperature ranges and is immune to most vibration and mechanical shock.

The ALPHALIGHT™ LED Illuminators are offered in the Teledyne standard catalog, with custom options available including IR and NVIS.

Design Implementation Advantages

- Compact, rugged, lightweight
- Fast response < 100 ns on/off address
- Long life span
- Low voltage; power efficient operation
- 15,000:1 dynamic full range dimming
- High optical efficiency
- Eliminates DC-AC inverter/power supply
- No warm-up and no over voltage start
- High reliability

Parameters (Steady State DC) Ta = 25°C	AL1414M				SB1414M				AL1414C
	-R	-G	-B	-W	-R	-G	-B	-W	
Minimum Luminance (fL)	4000	4800	800	3400	7000	6000	1000	4000	3000
Hue (λ nm) (± 5nm)	625	525	470	Color (±0.02) x = .31-.35, y=.31-.35	625	525	470	Color (±0.02) x = .31-.35, y=.31-.35	Color (±0.02) RED: x=.67-.43, y=.27-.33, GREEN: x=.14-28, y=.64-.73, BLUE: x=.11-.15, y=.04-.10
Uniformity (Full Aperture)	≤ 1.3:1								
Maximum Power (mW)	1200	1260		1800	1890		2460		
Drive (VDC) ± .5V	2.5	3.5		2.5	3.5		RED=2.5, GREEN=3.5, BLUE=3.5		
Maximum Current (mA)	480	360		720	540		R: 240, G: 300, B: 180		
Projected Life (Hours)*	≥ 40K	≥ 20K		≥ 40K	≥ 20K		≥ 20K		

*Additional derating required for elevated temperatures
 SPECIFICATIONS ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE

Teledyne's ALPHALIGHT™ product is fully patent protected (U.S. Patents #5,440,197, #5,684,354, #5,892,325, #6,043,591 domestically as well as foreign additional patents pending) for this specific application.

For more information, please visit our website at www.teledynelighting.com

12964 Panama Street, Los Angeles, CA 90066 • Phone: 310.577.3882 • Fax: 310.574.2070 • lighting@teledyne.com • www.teledynelighting.com