

BKL SERIES

Area back-lights (1/3) - BKL0303A to BKL1007B

Posterior diffuse lighting system usually design to measure precisely or emphasize light-dark differences by contrast that allows to have good images of object's shape.

Are used to inspect profiles and edges also used for bright fields creation.

Technical specifications¹

Lighting model	BKL0303A	BKL0504B	BKL0505A	BKL0705B	BKL0707B	BKL1007B
Dimensions	40x34x22	52x55x22	62x55x22	75x75x22	86x77x22	89x107x22
Active surface	30x30	40x50	50x50	50x70	70x70	70x100
Weight	45g	85g	91g	185g	196g	255g
IP rating	IP50	IP50	IP50	IP50	IP50	IP50
Mounting holes	(x2)M4∇6	(x4)M4∇6	(x4)M4∇6	(x6)M4∇6	(x6)M4∇6	(x6)M4∇6
Connection	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V
Power cable (Non-included)	VCB Series	VCB Series	VCB Series	VCB Series	VCB Series	VCB Series
Modifiers²	NO	NO	NO	NO	NO	NO
Accessories³						
iBlueDrive tech.	inline	inline	inline	inline	inline	inline
iBlueDrive connection	3P aerial male inline connector, L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴	3P aerial male inline connector, L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴	3P aerial male inline connector, L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴	3P aerial male inline connector, L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴	3P aerial male inline connector, L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴	3P aerial male inline connector, L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴
iBlueDrive power cable (Non-included)	VCC Series	VCC Series	VCC Series	VCC Series	VCC Series	VCC Series
iBlueDrive accessories³						

Instantaneous consumption⁵ (max.)

*WT

Lighting model	BKL0303A	BKL0504B	BKL0505A	BKL0705B	BKL0707B	BKL1007B		
TYPE C 24VDC		1.4W	2.4W	3.1W	4.3W	6.4W	7.9W	-470C
		1.3W	1.6W	3.1W	2.9W	4.2W	4.8W	-525C
		1.1W	2.4W	3.8W	2.4W	3.1W	3.5W	-630C
		1.1W	2.6W	5.3W	2.4W	3.8W	4.8W	-880C
		1.1W	2.6W	5.3W	2.4W	3.8W	4.8W	-940C
		1.6W	2W	3.1W	4.3W	6.4W	7.9W	-W00C
TYPE P	No 'Type P' standard LED lighting systems in this series							
TYPE S Dmax= 1/20 Ton max= 2ms		350mA/8.4W	165mA/4W	705mA/17W	970mA/23W	1410mA/34W	1320mA/32W	-470S
		350mA/8.4W	165mA/4W	705mA/17W	970mA/23W	880mA/21W	1320mA/32W	-525S
		175mA/4.2W	440mA/11W	705mA/17W	970mA/23W	1410mA/34W	1760mA/42W	-630S
		220mA/5.3W	550mA/13W	705mA/17W	550mA/13W	880mA/21W	1100mA/26W	-880S
		220mA/5.3W	550mA/13W	705mA/17W	550mA/13W	880mA/21W	1100mA/26W	-940S
		350mA/8.4W	225mA/5.4W	705mA/17W	970mA/23W	1410mA/34W	1760mA/42W	-W00S
		N/A	600mA/14W channel	600mA/14W channel	600mA/14W channel	1700mA/41W channel	1800mA/43W channel	-RGBS
TYPE I⁶ 		2.4W[10W/2.2W]	3.8W[17W/3.5W]	4.3W[20W/3.9W]	5.8W[27W/4.4W]	8.2W[39W/7.4W]	10W[48W/7.7W]	-470i
		1.9W[10W/1.2W]	3.0W[17W/1.8W]	3.4W[20W/2.0W]	4.4W[27W/2.6W]	6.2W[39W/3.6W]	7.7W[48W/4.3W]	-525i
		3.4W[10W/2.2W]	5.5W[17W/3.5W]	6.2W[20W/3.9W]	8.4W[27W/5.2W]	12W[39W/7.4W]	13W[48W/6.7W]	-630i
		1.9W[10W/1.4W]	4.1W[24W/2.9W]	6.2W[39W/4.3W]	4.1W[24W/2.9W]	6.2W[39W/4.3W]	7.7W[48W/4.8W]	-880i
		1.9W[10W/1.4W]	4.1W[24W/2.9W]	6.2W[39W/4.3W]	4.1W[24W/2.9W]	6.2W[39W/4.3W]	7.7W[48W/4.8W]	-940i
		2.4W[10W/1.9W]	3.8W[17W/3.0W]	4.3W[20W/3.4W]	5.8W[27W/4.4W]	8.2W[39W/6.2W]	10W[48W/7.7W]	-W00i

N/A= Not available CUS = Custom

(1) Environmental specifications and iconography legend in additional annex Z1.1 and Z2 respectively.

(2) Prior to manufacturing optional modifications in standard lighting systems. Please, consult the code before ordering (additional annex Z2.1).

(3) Accessories are non-included. More information in accessories section.

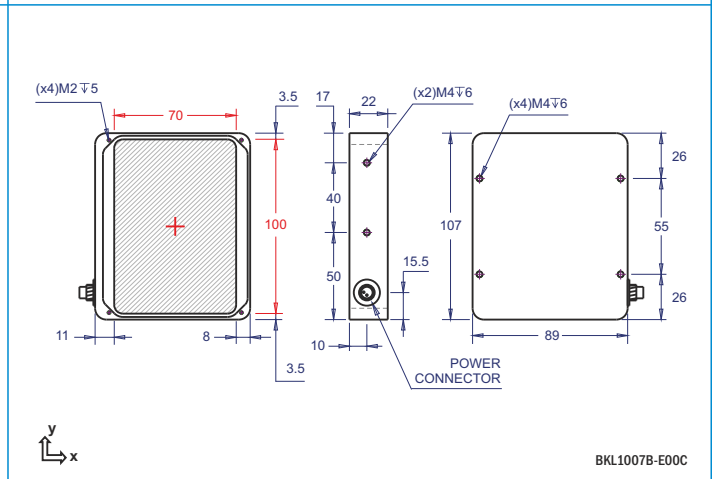
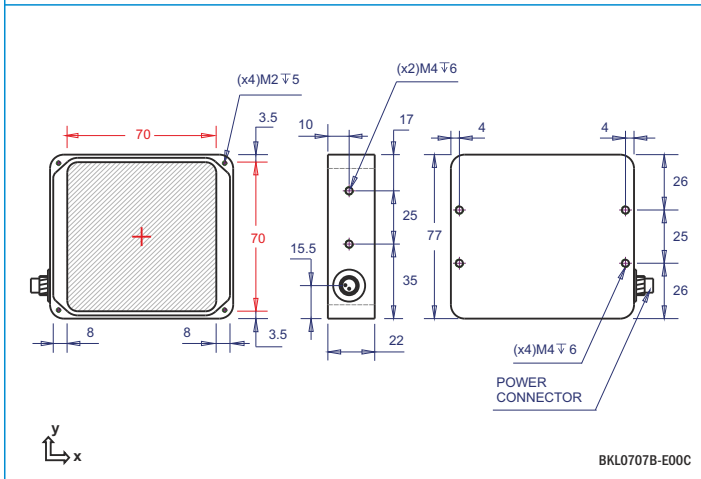
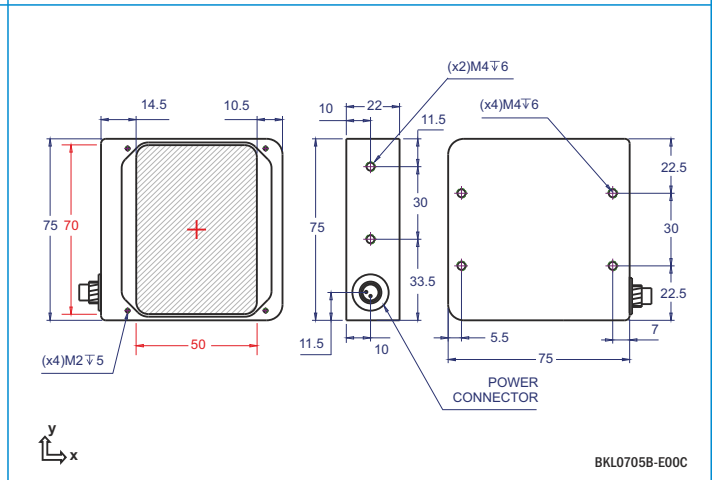
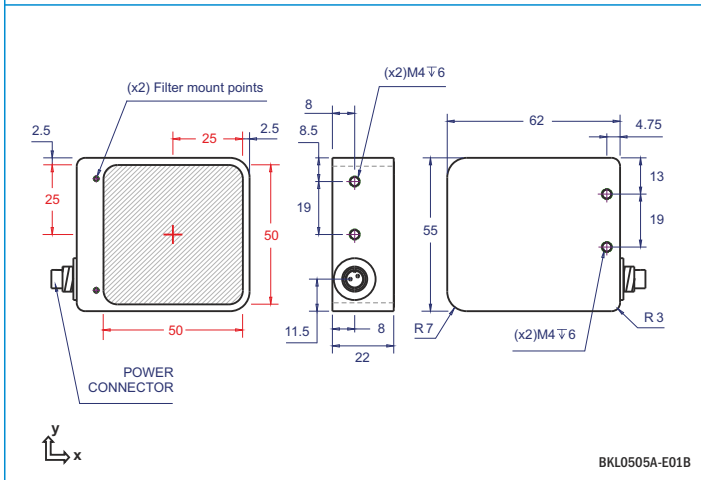
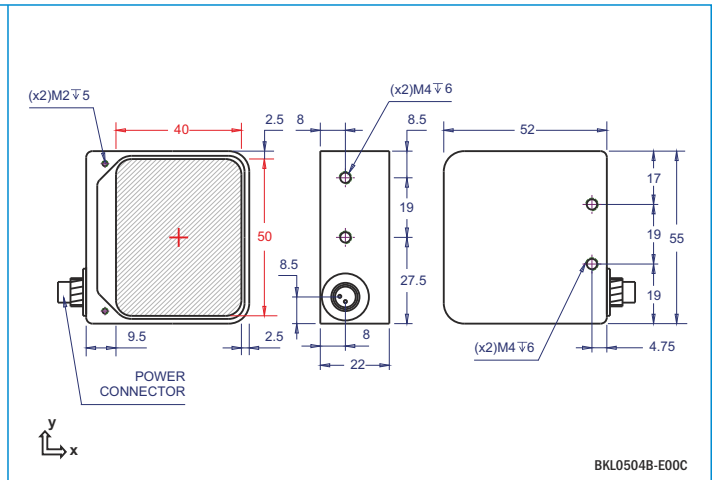
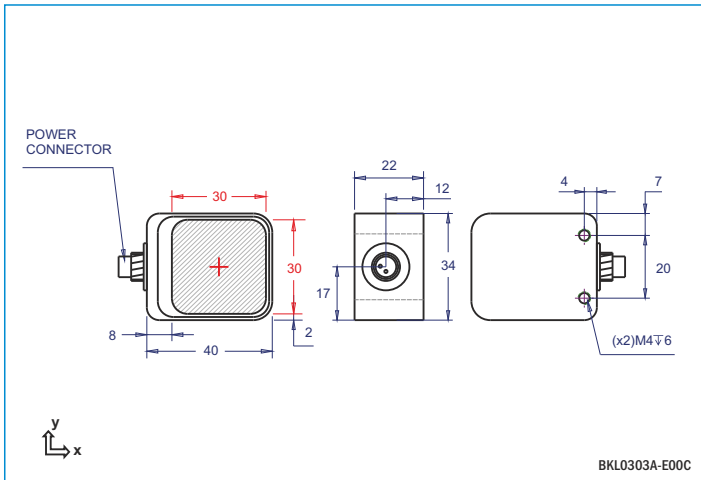
(4) iBlueDrive control input wiring specifications in additional annex Z1.3.

(5) Bear in mind that consumption table is only to be used as a guide. To refer to real values, please, consult product label when purchasing.

(6) Values of maximum instantaneous consumption of 'Type I' lighting systems in **Powered mode (Strobe mode / Continuous mode)**



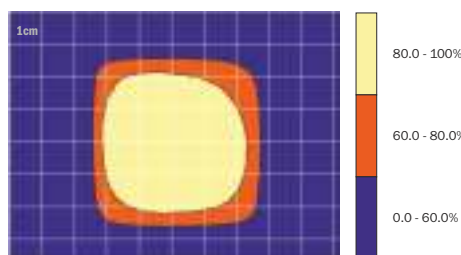
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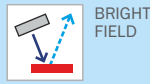
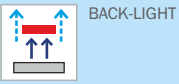
All units in millimeters, if not indicated.



Example of BKL captured image



Brightness distribution of BKL0505A-630C



BKL SERIES

Area back-lights (2/3) - BKL1010A to BKL2010A

Posterior diffuse lighting system usually design to measure precisely or emphasize light-dark differences by contrast that allows to have good images of object's shape.

Are used to inspect profiles and edges also used for bright fields creation.

Technical specifications¹

Lighting model	BKL1010A	BKL1510A	BKL1515B	BKL1818A	BKL2005A	BKL2010A
Dimensions	116x106x22	116x154x22	169x157x22	194x184x22	66x204x22	116x207x22
Active surface	100x100	100x150	150x150	180x180	50x200	100x200
Weight	305g	435g	620g	770g	370g	515g
IP rating	IP50	IP50	IP50	IP50	IP50	IP50
Mounting holes	(x6)M4∇6	(x7)M4∇6	(x7)M4∇6	(x7)M4∇6	(x7)M4∇6	(x7)M4∇6
Connection	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V
Power cable (Non-included)	VCB Series	VCB Series	VCB Series	VCB Series	VCB Series	VCB Series
Modifiers²	NO	NO	NO	NO	NO	NO
Accessories³						
iBlueDrive tech.	inline	NO	NO	NO	inline	NO
iBlueDrive connection	3P aerial male inline connector. L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴	NO	NO	NO	3P aerial male inline connector. L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴	NO
iBlueDrive power cable (Non-included)	VCC Series	NO	NO	NO	VCC Series	NO
iBlueDrive accessories³		NO	NO	NO		NO

Instantaneous consumption⁵ (max.)

*WT

Lighting model	BKL1010A	BKL1510A	BKL1515B	BKL1818A	BKL2005A	BKL2010A		
TYPE C 24VDC		9.2W	12W	17W	24W	8.4W	21W	-470C
		7.6W	8.3W	12W	17W	7.6W	15W	-525C
		7.6W	8.5W	11W	19W	5W	13W	-630C
		11W	13W	16W	27W	7.6W	19W	-880C
		11W	12W	16W	27W	7.6W	19W	-940C
		9.2W	12W	17W	24W	8.4W	25W	-W00C
	TYPE P	No 'Type P' standard LED lighting systems in this series						
TYPE S D _{max} = 1/20 Ton max= 2ms		2110mA/51W	2970mA/71W	4355mA/105W	5940mA/143W	2110mA/51W	5280mA/32W	-470S
		2110mA/51W	2970mA/71W	4355mA/105W	5940mA/143W	2110mA/51W	5280mA/32W	-525S
		2815mA/68W	3960mA/95W	5810mA/139W	7920mA/190W	2815mA/68W	7040mA/42W	-630S
		2640mA/63W	2970mA/71W	3960mA/95W	6600mA/158W	1760mA/42W	4400mA/26W	-880S
		2640mA/63W	2970mA/71W	3960mA/95W	6600mA/158W	1760mA/42W	4400mA/26W	-940S
		2815mA/68W	3960mA/95W	5810mA/139W	5940mA/143W	2815mA/68W	7040mA/169W	-W00S
		3000mA/72W channel	4500mA/108W channel	6600mA/158W channel	9000mA/216W channel	3300mA/79W channel	7800mA/187W channel	-RGBS
TYPE i⁶ 		2.4W[10W/2.2W]	N/A	N/A	N/A	8.2W[39W/7.4W]	N/A	-470i
		1.9W[10W/1.2W]	N/A	N/A	N/A	6.2W[39W/3.6W]	N/A	-525i
		3.4W[10W/2.2W]	N/A	N/A	N/A	12W[39W/7.4W]	N/A	-630i
		1.9W[10W/1.4W]	N/A	N/A	N/A	6.2W[39W/4.3W]	N/A	-880i
		1.9W[10W/1.4W]	N/A	N/A	N/A	6.2W[39W/4.3W]	N/A	-940i
		2.4W[10W/1.9W]	N/A	N/A	N/A	8.2W[39W/6.2W]	N/A	-W00i

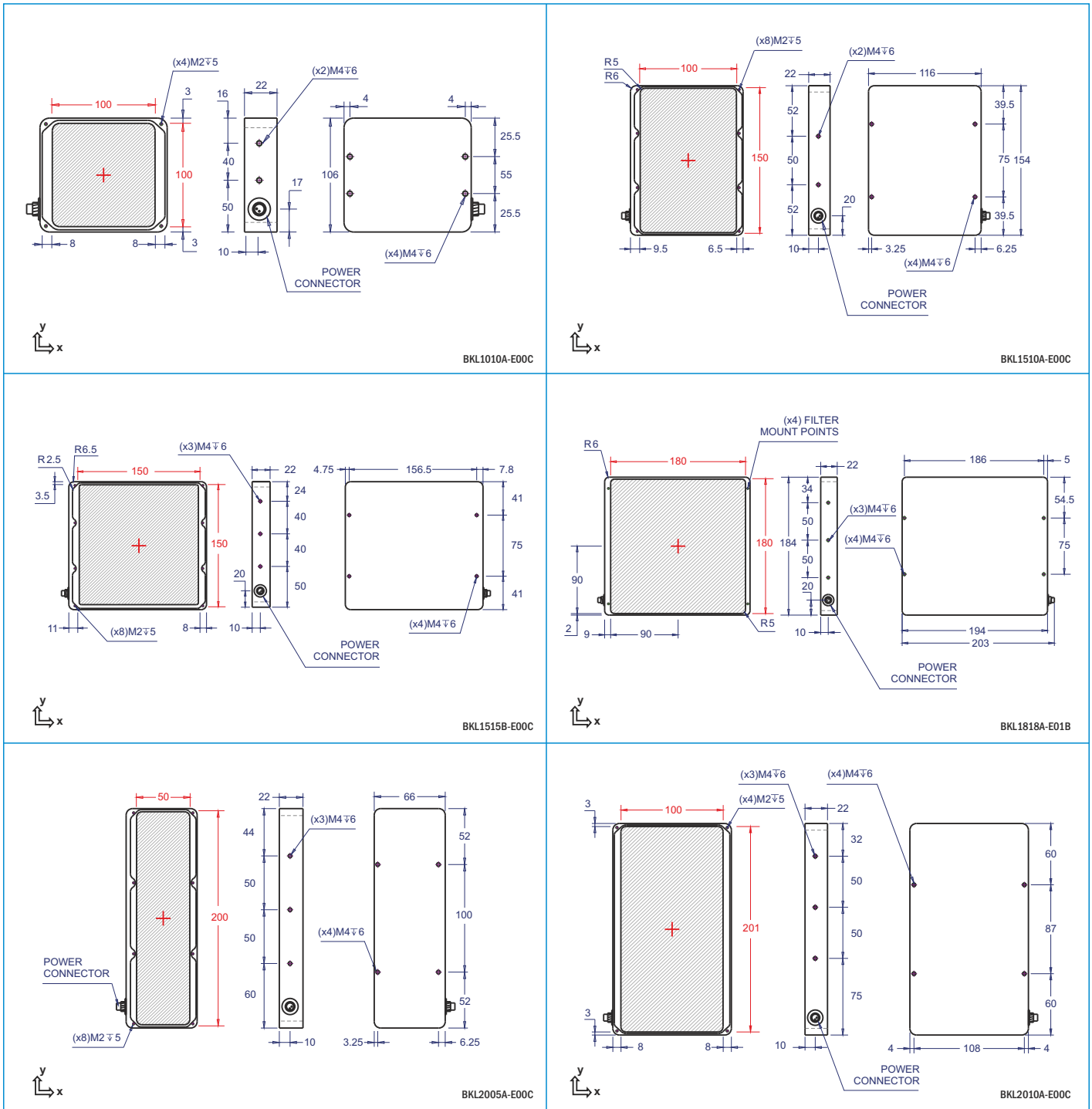
N/A= Not available CUS = Custom

(1) Environmental specifications and iconography legend in additional annex Z1.1 and Z2 respectively.
 (2) Prior to manufacturing optional modifications in standard lighting systems. Please, consult the code before ordering (additional annex Z2.1).
 (3) Accessories are non-included. More information in accessories section.

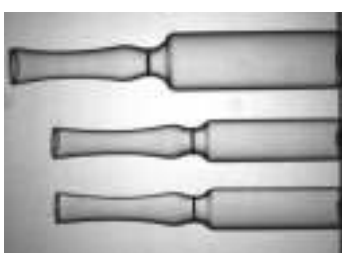
(4) iBlueDrive control input wiring specifications in additional annex Z1.3.
 (5) Bear in mind that consumption table is only to be used as a guide. To refer to real values, please, consult product label when purchasing.
 (6) Values of maximum instantaneous consumption of 'Type I' lighting systems in **Powered mode (Strobe mode / Continuous mode)**



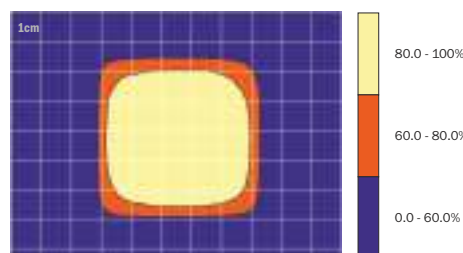
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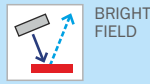
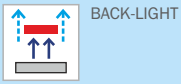
All units in millimeters, if not indicated.



Example of BKL captured image



Brightness distribution of BKL1010A-630C



BKL SERIES

Area back-lights (3/3) - BKL2222A to BKL4005A

Posterior diffuse lighting system usually design to measure precisely or emphasize light-dark differences by contrast that allows to have good images of object's shape.

Are used to inspect profiles and edges also used for bright fields creation.

Technical specifications¹

Lighting model	BKL2222A	BKL2515B	BKL2518A	BKL3005A	BKL4005A
Dimensions	239x227x22	169x257x22	198x255x22	69x304x22	66x404x22
Active surface	220x220	150x250	180x250	50x300	50x400
Weight	1195g	1015g	1125g	585g	692g
IP rating	IP50	IP50	IP50	IP50	IP50
Mounting holes	(x10)M4 ∇ 6	(x10)M4 ∇ 6	(x10)M4 ∇ 6	(x10)M4 ∇ 6	(x13)M4 ∇ 6
Connection	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V	2P males chassis connector PIN 1 = +24V PIN 2 = 0V
Power cable (Non-included)	VCB Series	VCB Series	VCB Series	VCB Series	VCB Series
Modifiers²	NO	NO	NO	NO	NO
Accessories³					
iBlueDrive tech.	NO	NO	NO	NO	inline
iBlueDrive connection	NO	NO	NO	NO	3P aerial male inline connector, L= 750mm. PIN 1 = +24V PIN 2 = 0V PIN 3 = Control ⁴
iBlueDrive power cable (Non-included)	NO	NO	NO	NO	VCC Series
iBlueDrive accessories³	NO	NO	NO	NO	

Instantaneous consumption⁵ (max.)

*WT

Lighting model	BKL2222A	BKL2515B	BKL2518A	BKL3005A	BKL4005A		
TYPE C 24VDC		38W	24W	28W	11W	17W	-470C
		27W	18W	26W	10W	15W	-525C
		18W	17W	24W	7.6W	10W	-630C
		23W	24W	24W	11W	16W	-880C
		23W	24W	24W	11W	16W	-940C
		38W	24W	28W	11W	17W	-W00C
	TYPE P	No 'Type P' standard LED lighting systems in this series					
TYPE S D _{max} = 1/20 Ton max= 2ms		9505mA/228W	7390mA/177W	14520mA/348W	2705mA/65W	4290mA/103W	-470S
		9505mA/228W	7390mA/177W	14520mA/348W	2705mA/65W	4290mA/103W	-525S
		12670mA/304W	9855mA/237W	14520mA/348W	3610mA/87W	5720mA/137W	-630S
		7920mA/190W	6710mA/161W	8250mA/198W	2640mA/63W	3630mA/87W	-880S
		7920mA/190W	6710mA/161W	8250mA/198W	2640mA/63W	3630mA/87W	-940S
		12670mA/304W	9855mA/237W	14520mA/348W	3610mA/87W	5720mA/137W	-W00S
		14400mA/346W channel	11100mA/266W channel	16500mA/396W channel	4500mA/108W channel	N/A	-RGBS
TYPE i⁶ 		N/A	N/A	N/A	N/A	24W[96W/16W]	-470i
		N/A	N/A	N/A	N/A	24W[96W/13W]	-525i
		N/A	N/A	N/A	N/A	24W[96W/19W]	-630i
		N/A	N/A	N/A	N/A	24W[96W/15W]	-880i
		N/A	N/A	N/A	N/A	24W[96W/15W]	-940i
		N/A	N/A	N/A	N/A	24W[96W/15W]	-W00i

N/A= Not available CUS = Custom

(1) Environmental specifications and iconography legend in additional annex Z1.1 and Z2 respectively.

(2) Prior to manufacturing optional modifications in standard lighting systems. Please, consult the code before ordering (additional annex Z2.1).

(3) Accessories are non-included. More information in accessories section.

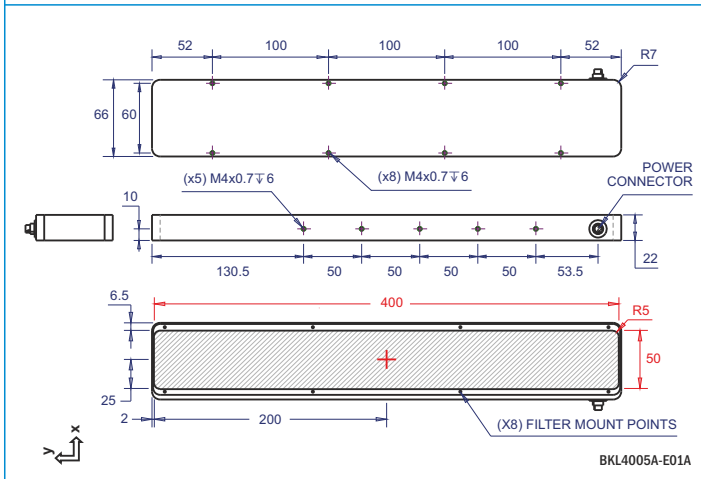
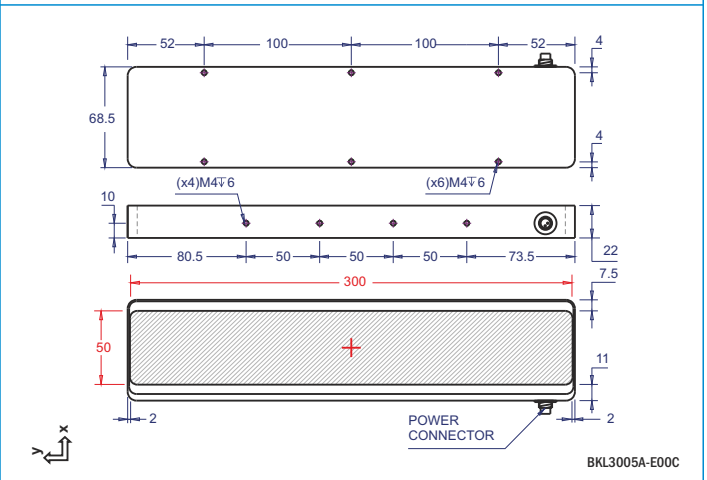
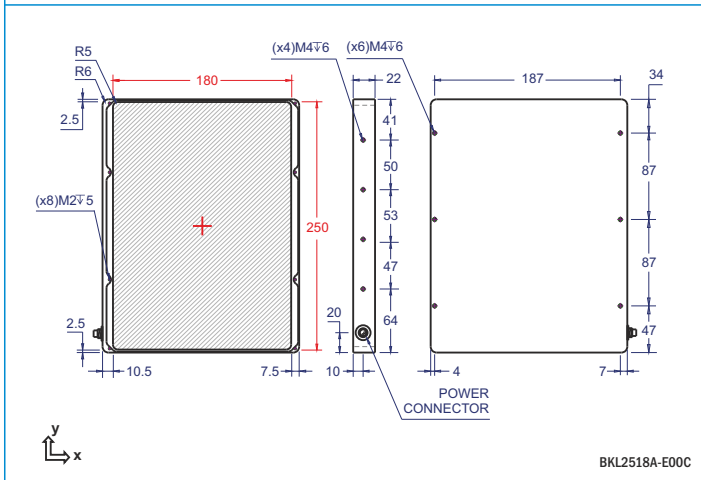
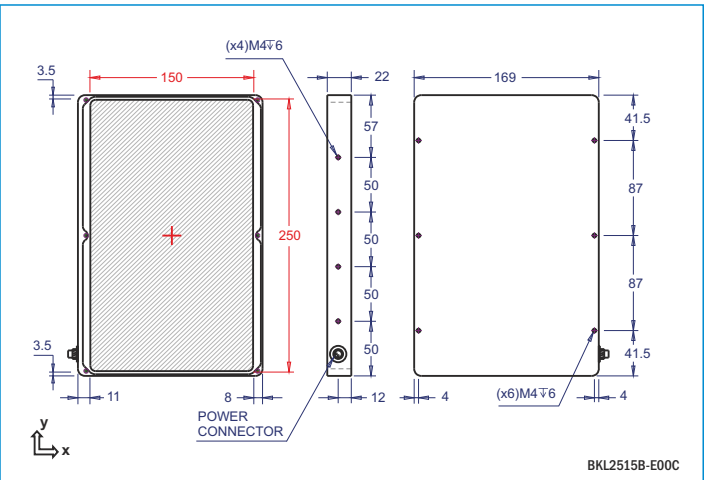
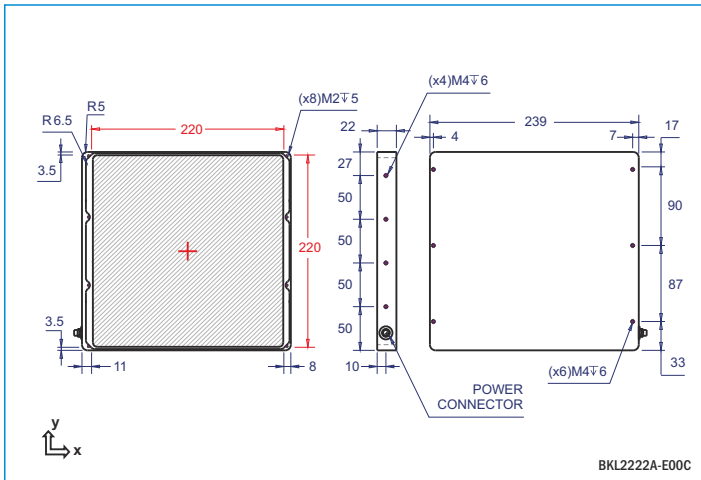
(4) iBlueDrive control input wiring specifications in additional annex Z1.3.

(5) Bear in mind that consumption table is only to be used as a guide. To refer to real values, please, consult product label when purchasing.

(6) Values of maximum instantaneous consumption of 'Type I' lighting systems in **Powered mode (Strobe mode / Continuous mode)**



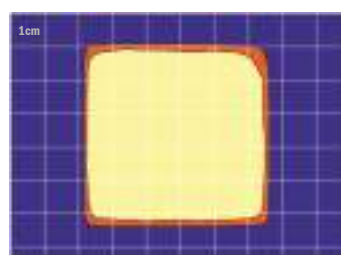
BKL SERIES



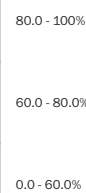
All units in millimeters, if not indicated.



Example of BKL captured image





Brightness distribution of BKL2222A-630C





► Table Z1.1 - Environmental Specifications

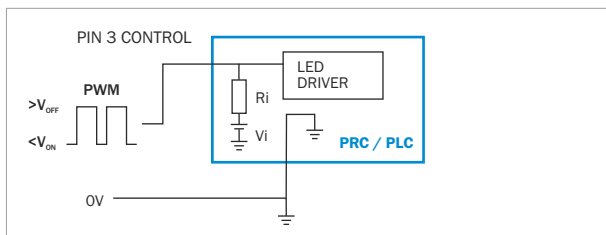
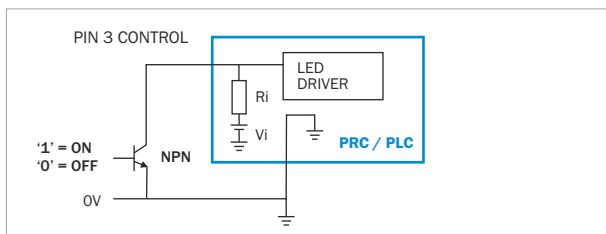
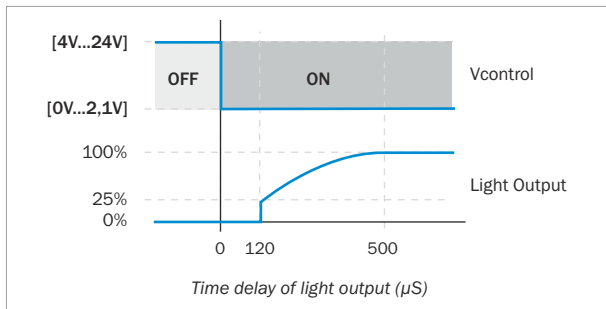
Max. Operating humidity	85% non-condensing
Operating Temperature	0 - 40°C
Storage Temperature	0 - 60°C
Housing material	Anodized aluminium
Standards	 

► Table Z1.2 - Control input for 'Type C' lighting systems with control

PLC and PRC series connection of 'Type C' lamps with control signal

0V to +2.1V	Light ON
+4V to +24V	Light OFF
Dimmer power light PWM (>7Khz)	Control without flickering

Time chart of light output vs control signal



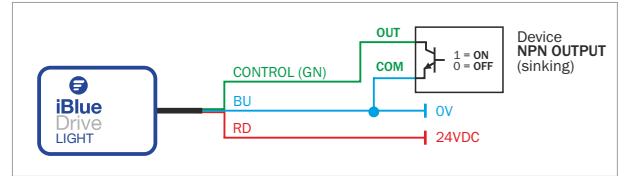
Electrical specifications

Working conditions	25°C, VIN = 24V
Connection	Direct to a NPN output
Delay from OFF to ON status	500µs
Dimmable	Yes. Regulation with a PWM signal thru ON/OFF input.*
*Recommended frequency of PWM	Over 7KHz for non-flickering output
Bias voltage in control input (Vi)	17V
Input impedance (Ri)	41.5KΩ
Duty cycle range of PWM signal	Between 0-0.8
Light output range with PWM dimmer control	From 25% to 100%

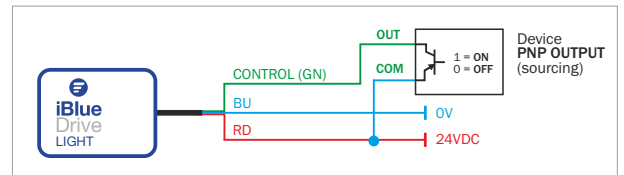
► Table Z1.3 - iBlueDrive control input wiring

All iBlueDrive products come together with a quick-start guide for connection and working conditions. Refer to iBlueDrive Manual for extended information.

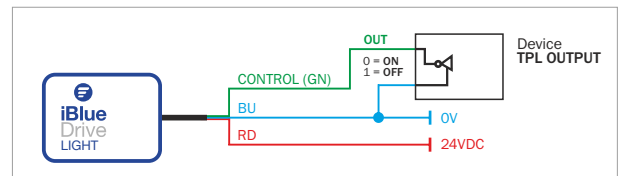
NPN wiring for strobe or ON/OFF working



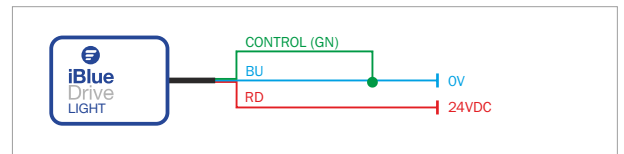
PNP wiring for strobe or ON/OFF working



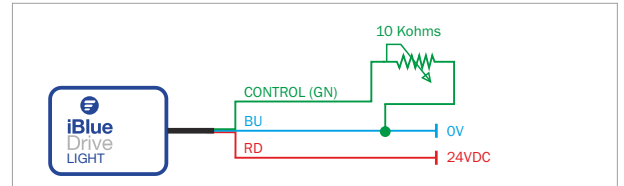
TTL wiring for strobe or ON/OFF working



Wiring for continuous mode

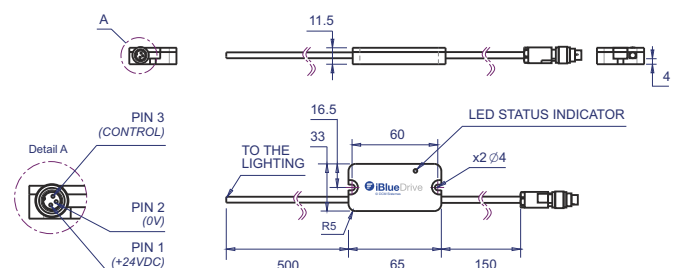


Wiring for continuous dimming mode



► Z1.4 - iBlueDrive inline

iBlueDrive inline is the driver for iBlueDrive technology integrated as a box of 65x33mm to the cable that goes from the lighting system to the connector. It is used when iBlueDrive driver can not be integrated on chassis. See diagram:



WARNING! In continuous and powered mode, clamp driver to a metal surface for heat dissipation. In Strobe mode is not required, but recommended.



► Table Z2.1 - Modifiers legend

icon	Description	Code
	Narrow angle of emission = 18-19°	/AN
	Medium angle of emission = 25-26° (By default)	/AM
	Wide angle of emission = 30-32°	/AW
	Oval angle of emission = 23-24° (x) 17-18° (y)	/AO
	Diffuse emission	/AD
	Polarizer filter	/FPL
	Diffuser filter	/FDR
	Dome hole of 46mm	/CC1
	Dome hole of 40mm	/CC2
	IP Rating = IP67	/67

► Table Z2.2 - Accessories legend

icon	Description	Serie
	Power cable/s	VCB, VCC, VCD Series
	Other cable/s	VCU, VCL
	Strobe controller/s	VST, VSC Series
	Polarizer filter	VPF
	Diffuser filter	VDF
	Collimator filter on x axis	VCFx
	Collimator filter on y axis	VCFy
	Collimator filter on xy axis	VCFxy
	Darkfield converter	VRF
	Protector filter	VPT
	Heat dissipator	VHD
	Fixing bracket	VBA, VBB, VBC Series

► Table Z2.3 - iBlueDrive Accessories legend

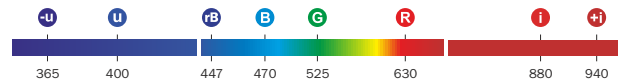
icon	Description	Serie/Product
	Accessorie to configure iBlueDrive devices: iBlueDrive Box, iBlueDrive USB	VTA0005A, VTA0007A
	iBlueDrive dimmer	VTA0010A
	iBlueDrive optocoupler	VTA0020A

► Table Z2.4 - Technical drawings legend

icon	Description
	Optical axis
	Viewing window dimensions
	Lighting elements
	Light emission center
	Lighting surface dimensions

► Table Z2.5 - Colours & Wavelegths legend

icon	Wavelength	Colour	Code
	365nm	UV-	-365
	400nm	UV	-400
	447nm	ROYAL BLUE	-447
	470nm	BLUE	-470
	525nm	GREEN	-525
	630nm	RED	-630
	850nm/880nm	IR	-850/-880
	940nm	IR+	-940
		WHITE	-W00
		RGB	-RGB



► Table Z2.6 - Types of lighting legend

icon	Description
	Radial lighting
	'Darkfield' lighting effect. Low angle illumination
	Backlight illumination
	'Cloudy day' lighting effect
	'Bright field' lighting effect
	Projector lighting
	Axial lighting

► Table Z2.7 - Types of light legend

icon	Description
	Direct light
	Diffuse light
	Ultra-diffuse light