METAPHASE LIGHTING TECHNOLOGIES

ISO2

ISO2 (Exolight2) builds upon the world renowned, ground breaking technology of the original Exolight Series (ISO). The ISO2 has a high-impact durable molded diffuser that results in an appearance similar to a fluorescent tube but has all the advantages of an LED front and backlight. With its 120° spread of uniform illumination, the ISO2 is an ideal candidate for the most sensitive area scan applications, as a front light, backlight, and some line scan applications. Consult your Metaphase representative for IP rated versions as well options that include polarizer, quick disconnect and more.

FEATURES
• Built-in Constant Current Driver with 0-10VDC Intensity Control
• Passive cooling (no fans needed)
• Lumiform diffuser with 120° (±5%) uniform lighting
• Compatible with DDC-3 and ILD-35-24-L
• Hard molded diffuser for durability and resistance to impacts
• Features a clamping style tilt bracket to allow for easy positioning from 0 – 180°

APPLICATIONS
• Machine Vision and Automation
• Work bench illumination
• Automotive component inspection
• Coiled steel pin-hole detection
• Pick and Place applications
• Sorting facilities
• Robotic Inspection

WAVELENGTHS

Order ID	Description / nanometers
W	White (6000K), Nominal
R	Red / 630nm
G	Green / 530nm
B	Blue / 470nm
IR850 (or IRN)	Infrared / 850nm
IR880 (or IRL)	Infrared / 880nm
IR940	Infrared / 940nm
UV365 (or UVS)	Ultraviolet Short / 365nm
UV395 (or UVL)	Ultraviolet Long / 395nm
RGB	Red-Green-Blue
RGBIR	Red-Green-Blue-IRXXX

GENERAL SPECIFICATIONS

Power Source:	24VDC ±5%
Cable (Standard):	10-foot cable with flying leads
Housing:	Black Anodized Aluminum
Ambient Temp:	-20°C to 40°C
Lifetime Expectancy:	75,000 hours (except UV)

METAPHASE
215-639-8699

211 Sinclair Road, Suite 100
Bristol, PA 19007 USA
www.metaphase-tech.com

ISO2

			Cable(s)			Typical Current (Amps) @24VDC						
SINGLE COLOR EXO2 LIGHTS												
MODEL	Lens Length Inches (cm)	Weight lbs/Kg	QTY	Lgth	Description	WHITE	RED	GREEN	BLUE	IR	UVL	UVS
ISO2-5	5.63 (14.3)	1.17/.531				0.3	0.4	0.4	0.4	0.3	0.4	0.4
ISO2-8	7.13 (18.1)	1.46/.662			18 AWG, 4 Conductor	0.4	0.5	0.4	0.4	0.3	0.4	0.4
ISO2-14	13.16 (33.4)	2.49/1.13				0.8	1.0	1.1	1.0	0.6	0.9	1.1
ISO2-19	18.23 (46.3)	3.22/1.46				1.1	1.5	1.5	1.4	1.0	1.3	1.5
ISO2-23	22.03 (56.0)	3.74/1.70				1.3	1.7	1.7	1.6	1.3	1.5	1.7
ISO2-30	29.63 (75.2)	5.18/2.35	1	10ft		1.8	2.4	2.4	2.3	1.6	2.0	2.4
ISO2-34	33.23 (84.4)	5.65/2.56				2.3	2.7	2.8	2.7	2.0	2.4	2.8
ISO2-48	44.85 (113.9)	7.63/3.46				3.2	3.5	3.8	3.6	3.0	3.2	3.7
ISO2-53	52.23 (132.7)	8.62/3.91				3.3	4.4	4.4	4.3	3.0	3.7	4.4
ISO2-57	56.98 (144.7)	9.41/4.27				3.7	4.6	4.7	4.7	3.3	4.1	4.9
ISO2-63	62.48 (158.7)	10.3/4.67			18 AWG, 6 Conductor	4.0	5.0	5.4	5.2	4.0	4.5	5.3
ISO2-68	67.23 (170.8)	11.1/5.03				4.6	5.5	5.9	5.6	4.4	4.9	5.8
ISO2-71	70.73 (179.7)	12.0/5.44				4.8	5.7	6.1	5.9	4.8	5.1	6.0
ISO2-89	88.23 (224.1)	14.1/6.40				6.0	7.8	8.4	7.8	5.9	6.6	7.8
ISO2-96	95.73 (243.1)	15.3/6.94	2	20ft		6.6	8.0	8.7	8.7	6.6	7.2	8.5
ISO2-100	99.23 (252.0)	15.9/7.21				6.8	8.5	9.2	8.8	6..9	7.6	9.0
ISO2-119	118.23 (300.3)	17.7/8.03				8.3	10.3	11.1	10.6	8.1	9.2	10.9
ISO2-132	133.25 (338.5)	18.6/8.44				9.5	11.8	12.8	12.2	9.3	10.5	12.6

*Custom sizes and configurations are available

WIRING DIAGRAM (4 conductor)	
Wire Color	Function
RED	+24VDC
GREEN	SIGNAL GROUND
BLACK	GROUND (24V RTN)
WHITE	0-10VDC Intensity Control

When not using the Intensity Control, connect the 0-10V control line to the +24VDC and connect the Signal Ground to Ground (24V RTN)

WIRING DIAGRAM (6 conductor)	
Wire Color	Function
RED, ORANGE	+24VDC
GREEN	SIGNAL GROUND
BLACK, BLUE	GROUND (24V RTN)
WHITE	0-10VDC Intensity Control

M12 (5 position male)	
Pin #	Function
1	+24VDC
2	0-10VDC Intensity Control
3	GROUND (24V RTN)
4	SIGNAL GROUND
5	No Connection

The M12 connector option is not recommended for lights rated more than 4 amps

Note: The 0-10VDC Intensity Control input can accept voltages from 0-24VDC where the light will operate at full intensity in the 10-24VDC range. The light is proportionally dimmer for any Intensity Control voltage less than 10VDC and the light is OFF at approximately 0V or not connected (floating).

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MODEL*	Lens Length Inches (cm)	Weight lbs/Kg	QTY	Lgth	Description	WHITE	RED	GREEN	BLUE	IR	UVL	UVS
SINGLE COLOR EXO2 LIGHTS with ULC-2 Controller				Cable(s)		Typical Controller Settings: Input Current / Strobe Current (Amps) @250us						
ISO2-5	5.63 (14.3)	1.17/.531			18 AWG, 4 Conductor	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5
ISO2-8	7.13 (18.1)	1.46/.662				0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5	0.5/2.5
ISO2-14	13.16 (33.4)	2.49/1.13				1.5/13	1.5/13	1.5/13	1.5/13	1.5/13	1.5/13	1.5/13
ISO2-19	18.23 (46.3)	3.22/1.46				1.5/13	1.5/13	1.5/13	1.5/13	1.5/13	1.5/13	1.5/13
ISO2-23	22.03 (56.0)	3.74/1.70				1.5/15	1.5/15	1.5/15	1.5/15	1.5/15	1.5/15	1.5/15
ISO2-30	29.63 (75.2)	5.18/2.35	1	10ft		2.0/18	2.0/18	2.0/18	2.0/18	2.0/18	2.0/18	2.0/18
ISO2-34	33.23 (84.4)	5.65/2.56				2.2/20	2.2/20	2.2/20	2.2/20	2.2/20	2.2/20	2.2/20
ISO2-48	44.85 (113.9)	7.63/3.46				2.7/25	2.7/25	2.7/25	2.7/25	2.7/25	2.7/25	2.7/25
ISO2-53	52.23 (132.7)	8.62/3.91				3.0/25	3.0/25	3.0/25	3.0/25	3.0/25	3.0/25	3.0/25
ISO2-57	56.98 (144.7)	9.41/4.27				3.3/27	3.3/27	3.3/27	3.3/27	3.3/27	3.3/27	3.3/27
ISO2-63	62.48 (158.7)	10.3/4.67			18 AWG, 6 Conductor	3.6/27	3.6/27	3.6/27	3.6/27	3.6/27	3.6/27	3.6/27
ISO2-68	67.23 (170.8)	11.1/5.03				4.0/30	4.0/30	4.0/30	4.0/30	4.0/30	4.0/30	4.0/30
ISO2-71	70.73 (179.7)	12.0/5.44				4.0/30	4.0/30	4.0/30	4.0/30	4.0/30	4.0/30	4.0/30
ISO2-89	88.23 (224.1)	14.1/6.40	2	20ft		Contact Metaphase for possible custom order configurations						
ISO2-96	95.73 (243.1)	15.3/6.94										
ISO2-100	99.23 (252.0)	15.9/7.21										
ISO2-119	118.23 (300.3)	17.7/8.03										
ISO2-132	133.25 (338.5)	18.6/8.44										

*Custom sizes and configurations are available

SINGLE COLOR LIGHT with ULC-2 (4 conductor)	
WIRE COLOR	FUNCTION
RED, WHITE (+)	LED INPUT
BLACK, GREEN (-)	
Terminated within a 2 position ULC-2 output connector (Phoenix Contact P/N: BCP-508-2)	

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RGB EXO2 LIGHTS						
MODEL	Lens Length Inches (cm)	Weight lbs/Kg	Cable QTY	Cable Length	Cable Description	Typical Input Current (Amps)
ISO2-05-RGB-24	6.50 (16.5)	1.33/.603	1	10ft	18 AWG, 6 Conductor	0.5
ISO2-10-RGB-24	11.51 (29.2)	2.07/.939				1.1
ISO2-20-RGB-24	21.62 (54.9)	3.67/1.66				2.4
ISO2-30-RGB-24	31.73 (80.6)	5.39/2.44				2.9
ISO2-40-RGB-24	41.73 (106.0)	7.09/3.22	2			3.9
ISO2-50-RGB-24	51.73 (131.4)	8.54/3.87				4.9

RGBIR EXO2 LIGHTS						
MODEL	Lens Length Inches (cm)	Weight lbs/Kg	Cable QTY	Cable Length	Cable Description	Typical Input Current (Amps)
ISO2-06-RGBIR-24	7.40 (18.8)	1.52/.689	1	10ft	22 AWG, 10 Conductor	0.8
ISO2-10-RGBIR-24	11.40 (29.0)	2.03/.921				0.8
ISO2-12-RGBIR-24	13.40 (34.0)	2.41/1.09				0.9
ISO2-17-RGBIR-24	17.40 (44.2)	2.96/1.34				1.2
ISO2-20-RGBIR-24	21.40 (54.4)	3.62/1.64				1.5
ISO2-22-RGBIR-24	23.40 (59.4)	3.97/1.80				1.6
ISO2-25-RGBIR-24	26.40 (67.1)	4.48/2.03				2.0
ISO2-35-RGBIR-24	36.40 (92.4)	6.19/2.81				2.9
ISO2-45-RGBIR-24	46.40 (117.9)	7.89/3.58				3.7
ISO2-65-RGBIR-24	66.40 (168.7)	11.29/5.12				5.4

*Custom sizes and configurations are available

RGB (6 Conductor)	
WIRE COLOR	FUNCTION
ORANGE	+24VDC
BLACK	GND (24V RTN)
WHITE	SIG GND
RED	0-10V RED Intensity Control
GREEN	0-10V GREEN Intensity Control
BLUE	0-10V BLUE Intensity Control
When not using the Intensity Control, connect the 0-10V control line(s) to +24VDC and connect SIG GND to GND (24V RTN)	

RGBIR (10 Conductor)	
WIRE COLOR	FUNCTION
WHITE WHT/BLK	+24VDC
BLACK	GND (24V RTN)
RED/BLK GREEN/BLK ORG/BLK	SIGNAL GND
RED	0-10V RED Intensity Control
GREEN	0-10V GREEN Intensity Control
BLUE	0-10V BLUE Intensity Control
ORANGE	0-10V INFRARED Intensity Control
When not using the Intensity Control, connect the 0-10V control line(s) to +24VDC and connect SIG GND to GND (24V RTN)	

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MODEL*	Lens Length Inches (cm)	Weight lbs/Kg	Cable QTY	Cable Length	Cable Description	Typical Controller Settings: Input/ Strobe Current @250us (per color) (Amps)
RGB EXO2 LIGHTS with ULC-2 Controller option						
ISO2-05-RGB-U	6.50 (16.5)	1.33/.603				1.0/10
ISO2-10-RGB-U	11.51 (29.2)	2.07/.939	1			1.4/13
ISO2-20-RGB-U	21.62 (54.9)	3.67/1.66		10ft	18 AWG, 6 Conductor	2.5/25
ISO2-25-RGB-U	26.90 (68.3)	4.53/2.05				3.6/27
ISO2-36-RGB-U	37.10 (94.2)	6.31/2.86	2			4.7/35
ISO2-41-RGB-U	42.20 (107.2)	7.17/3.25				5.8/40

MODEL*	Lens Length Inches (cm)	Weight lbs/Kg	Cable QTY	Cable Length	Cable Description	Typical Controller Settings: Input/ Strobe Current @250us (per color) (Amps)
RGBIR EXO2 LIGHTS with ULC-2 Controller option						
ISO2-05-RGBIR-U	6.40 (16.3)	1.31/.594				0.7/10
ISO2-10-RGBIR-U	11.40 (29.0)	2.05/.930				1.1/13
ISO2-20-RGBIR-U	21.40 (54.4)	3.70/1.69				1.1/13
ISO2-25-RGBIR-U	26.40 (67.1)	4.48/2.03	1	10ft	22 AWG, 10 Conductor	2.0/20
ISO2-35-RGBIR-U	36.40 (92.4)	6.19/2.81				2.5/25
ISO2-45-RGBIR-U	46.40 (117.9)	7.89/3.58				3.0/30
ISO2-65-RGBIR-U	66.40 (168.7)	11.29/5.12				4.0/30

*Custom sizes and configurations are available

RGB with ULC-2 (6 Conductor)	
WIRE COLOR	FUNCTION
RED (+)	LED INPUT
BLACK (-)	RED
GREEN (+)	LED INPUT
WHITE (-)	GREEN
BLUE (+)	LED INPUT
ORANGE (-)	BLUE
Terminated within a 2 position ULC-2 output connector (Phoenix Contact P/N: BCP-508-2)	

RGBIR with ULC-2 (10 Conductor)	
WIRE COLOR	FUNCTION
RED (+)	LED INPUT
RED/BLK (-)	RED
GREEN (+)	LED INPUT
GRN/BLK(-)	GREEN
BLUE (+)	LED INPUT
BLACK (-)	BLUE
ORANGE (+)	LED INPUT
ORG/BLK (-)	IR
WHITE (+)	NO
WHT/BLK (-)	CONNECTION
Terminated within a 2 position ULC-2 output connector (Phoenix Contact P/N: BCP-508-2)	

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ISO2

MODEL NUMBER KEY								
MODEL	-	LENS LENGTH	-	COLOR/WAVELENGTH	-	OPTION 1	-	OPTION 2
ISO2	-	XXX	-	XXXXX	-	XXX	-	XXX-XXX
ISO2		Enter lens length in inches. See chart above for standard sizes from 5" to 132". Contact Metaphase for additional and custom sizes.		**W** (White 6000K, Nominal) **R** (Red 630nm) **G** (Green 530nm) **B** (Blue 470nm) **IR850 (or IRN)** (Infrared 850nm) **IR880 (or IRL)** (Infrared 880nm) **IR940** (Infrared 940nm) **UV365 (or UVS)** (UV Short 365nm) **UV395 (or UVL)** (UV Long 395nm) **RGB** (Red-Green-Blue) **RGBIR** (Red-Green-Blue-IR850)		**24** (+24VDC) (standard) **U** (ULC-2 interface) **KEY** (Keyence Controller) **ILD** (In Line Dimmer) **ILS** (In Line Strobe)		**T** (M12 quick diconnect) **FTRG** (300kHz Fast Driver) **P** (Polarizer, availble for all configurations) **XXX** Customizable per order

Contact Metaphase Technologies or your local representative for options such as custom diffusers, lenses, polarizers, IP-rated enclosures for harsh environments, higher intensity, custom wavelengths, higher uniformity, etc. Not all options are available for all lights.

ISO2

Sample Model Number: ISO2-19-W-24

RoHS compliant

CE

Contact Metaphase Technologies at **215-639-8699** or your local representative for additional details, options and customizations.

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