

## ISO2

The ISO2 (Exolight v2.0) builds upon the world renowned, groundbreaking technology of the original Exolight Series (ISO). The ISO2 has a high-impact durable molded diffuser that results in a similar appearance 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 as options that include polarizer, quick disconnect and more.



### FEATURES

- The 24V version has a 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 Dimmers
- 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	Infrared / 850nm
IR880	Infrared / 880nm
IR940	Infrared / 940nm
UV395	Ultraviolet Long / 395nm
RGB	Red-Green-Blue
RGBIR850	Red-Green-Blue-IR850
WIR850	White-IR850

### GENERAL SPECIFICATIONS

<b>Power Source:</b>	24VDC ±5%
<b>Cable (Standard):</b>	10-foot cable with flying leads
<b>Housing:</b>	Black Anodized Aluminum
<b>Ambient Temp:</b>	-20°C to 40°C
<b>Lifetime Expectancy:</b>	75,000 hours (except UV)
<b>IP Rating:</b>	IP50 standard (contact Sales for higher IP versions)

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SINGLE COLOR EXO2 LIGHTS											
MODEL	Lens Length Inches (cm)	Weight lbs/Kg	Cable(s)			Typical Current (Amps) @24VDC					
			QTY	Length	Description	WHITE	RED	GREEN	BLUE	IR	UVL
ISO2-5	5.63 (14.3)	1.17/.531	1	10ft	18 AWG, 4 Conductor	0.3	0.4	0.4	0.4	0.3	0.4
ISO2-8	7.13 (18.1)	1.46/.662				0.4	0.5	0.4	0.4	0.3	0.4
ISO2-14	13.16 (33.4)	2.49/1.13				0.8	1.0	1.1	1.0	0.6	0.9
ISO2-19	18.23 (46.3)	3.22/1.46				1.1	1.5	1.5	1.4	1.0	1.3
ISO2-23	22.03 (56.0)	3.74/1.70				1.3	1.7	1.7	1.6	1.3	1.5
ISO2-30	29.63 (75.2)	5.18/2.35				1.8	2.4	2.4	2.3	1.6	2.0
ISO2-34	33.23 (84.4)	5.65/2.56				2.3	2.7	2.8	2.7	2.0	2.4
ISO2-48	44.85 (113.9)	7.63/3.46				3.2	3.5	3.8	3.6	3.0	3.2
ISO2-53	52.23 (132.7)	8.62/3.91				3.3	4.4	4.4	4.3	3.0	3.7
ISO2-57	56.98 (144.7)	9.41/4.27				3.7	4.6	4.7	4.7	3.3	4.1
ISO2-63	62.48 (158.7)	10.3/4.67	2	20ft	18 AWG, 6 Conductor	4.0	5.0	5.4	5.2	4.0	4.5
ISO2-68	67.23 (170.8)	11.1/5.03				4.6	5.5	5.9	5.6	4.4	4.9
ISO2-71	70.73 (179.7)	12.0/5.44				4.8	5.7	6.1	5.9	4.8	5.1
ISO2-89	88.23 (224.1)	14.1/6.40				6.0	7.8	8.4	7.8	5.9	6.6
ISO2-96	95.73 (243.1)	15.3/6.94				6.6	8.0	8.7	8.7	6.6	7.2
ISO2-100	99.23 (252.0)	15.9/7.21				6.8	8.5	9.2	8.8	6.9	7.6
ISO2-119	118.23 (300.3)	17.7/8.03				8.3	10.3	11.1	10.6	8.1	9.2
ISO2-132	133.25 (338.5)	18.6/8.44	9.5	11.8	12.8	12.2	9.3	10.5			

\*Custom sizes and configurations are available

WIRING DIAGRAM (4 conductor)		WIRING DIAGRAM (6 conductor)		M12 (5 position male)	
Wire Color	Function	Wire Color	Function	Pin #	Function
RED	+24VDC	RED, ORANGE	+24VDC	1	+24VDC
GREEN	SIGNAL GROUND	GREEN	SIGNAL GROUND	2	0-10VDC Intensity Control
BLACK	GROUND (24V RTN)	BLACK, BLUE	GROUND (24V RTN)	3	GROUND (24V RTN)
WHITE	0-10VDC Intensity Control	WHITE	0-10VDC Intensity Control	4	SIGNAL GROUND
				5	No Connection
When not using the Intensity Control, connect the 0-10V control line to the +24VDC and connect the Signal Ground to Ground (24V RTN)				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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SINGLE COLOR EXO2 LIGHTS with ULC-2 Controller															
			Cable(s)			Typical Controller Settings:									
						Input Current / Strobe Current (Amps) @250us									
MODEL*	Lens Length Inches (cm)	Weight lbs/Kg	QTY	Lgth	Description	WHITE	RED	GREEN	BLUE	IR	UVL	UVS			
ISO2-5	5.63 (14.3)	1.17/0.531	1	10ft	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)	1.46/0.662				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	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	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	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	1.5/15	1.5/15	
ISO2-30	29.63 (75.2)	5.18/2.35				2.0/18	2.0/18	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	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	2.7/25	2.7/25	
ISO2-53	52.23 (132.7)	8.62/3.91			18 AWG, 6 Conductor		3.0/25	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	3.3/27	3.3/27
ISO2-63	62.48 (158.7)	10.3/4.67					3.6/27	3.6/27	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	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	4.0/30	4.0/30
ISO2-89	88.23 (224.1)	14.1/6.40					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	2	20ft											

\*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				3.9
ISO2-50-RGB-24	51.73 (131.4)	8.54/3.87	2			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)		RGBIR (10 Conductor)	
WIRE COLOR	FUNCTION	WIRE COLOR	FUNCTION
ORANGE	+24VDC	WHITE WHT/BLK	+24VDC
BLACK	GND (24V RTN)	BLACK	GND (24V RTN)
WHITE	SIG GND	RED/BLK GREEN/BLK ORG/BLK	SIGNAL GND
RED	0-10V RED Intensity Control	RED	0-10V RED Intensity Control
GREEN	0-10V GREEN Intensity Control	GREEN	0-10V GREEN Intensity Control
BLUE	0-10V BLUE Intensity Control	BLUE	0-10V BLUE Intensity Control
<p style="color: red; font-size: small;">When not using the Intensity Control, connect the 0-10V control line(s) to +24VDC and connect SIG GND to GND (24V RTN)</p>		ORANGE	0-10V INFRARED Intensity Control
		<p style="color: red; font-size: small;">When not using the Intensity Control, connect the 0-10V control line(s) to +24VDC and connect SIG GND to GND (24V RTN)</p>	

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RGB EXO2 LIGHTS with ULC-2 Controller option						
MODEL*	Lens Length Inches (cm)	Weight lbs/Kg	Cable QTY	Cable Length	Cable Description	Typical Controller Settings: Input/ Strobe Current @250us (per color) (Amps)
ISO2-05-RGB-U	6.50 (16.5)	1.33/.603	1	10ft	18 AWG, 6 Conductor	1.0/10
ISO2-10-RGB-U	11.51 (29.2)	2.07/.939				1.4/13
ISO2-20-RGB-U	21.62 (54.9)	3.67/1.66				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

RGBIR EXO2 LIGHTS with ULC-2 Controller option						
MODEL*	Lens Length Inches (cm)	Weight lbs/Kg	Cable QTY	Cable Length	Cable Description	Typical Controller Settings: Input/ Strobe Current @250us (per color) (Amps)
ISO2-05-RGBIR-U	6.40 (16.3)	1.31/.594	1	10ft	22 AWG, 10 Conductor	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				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

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PART NUMBER KEY														
MODEL	-	LENGTH ID (inches)	-	WAVELENGTH	-	DRIVER* (most common)	-	POLARIZER	-	COVER	-	CABLE LENGTH	-	CONN.** (most Common)
ISO2	-	XXX	-	XXXXX	-	XXX-XXXXXX	-	XXXX	-	XX	-	XXX	-	XXXX
<b>ISO2</b>		<b>5 through 132</b> (See above chart)		<b>W</b> (White 6000K, Nominal) <b>R</b> (Red 630nm) <b>G</b> (Green 530nm) <b>B</b> (Blue 470nm) <b>IR850</b> (Infrared 850nm) <b>IR880</b> (Infrared 880nm) <b>IR940</b> (Infrared 940nm) <b>UV395</b> (UV Long 395nm) <b>RGB</b> (Red-Green-Blue) <b>RGBIR850</b> (Red-Green-Blue-IR850) <b>WIR850</b> (White-IR850)		<b>24Z</b> <b>24Z-TRG</b> <b>24-ILSXXX</b> <b>24-ILD</b> <b>U<sup>1</sup></b>  XXX=rate in μs Example: 250	<b>POLO</b>  Must use CC with Polarizer  Select or leave blank for no polarizer	<b>CC</b>  Select or leave blank for frosted cover	<b>5M</b> <b>10M</b>  Length can be customized: ex.7M=7meters  Select or leave blank for 3 meters	<b>M12D<sup>1 2</sup></b> <b>BC<sup>1 3</sup></b>  Select or leave blank for flying leads				
Example 1: <b>ISO2-19-W-24Z-POL0-CC-M12D</b> Example 2: <b>ISO2-48-G-24Z-TRG</b>						<sup>1</sup> Not available in lights exceeding 4A input current <sup>2</sup> Default cable length for an M12D connector is 19 inches <sup>3</sup> Default cable length for a Barrel Connector is 10 feet								

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.

\*(Link to Driver Options Key)

\*\*\*(Link to Connector Key)

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Sample Model Number: ISO2-19-W-24Z

LIGHT HOUSING IS ADJUSTABLE UP TO 95° IN EACH DIRECTION.

120° LIGHT ARC

3.68 [93.4]

2.60 [66]

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
B	POWER CABLE UPDATE	7/17/2017	

POWER CABLE  
18 AWG Stranded;  
4 conductor w/ flying leadwire  
ends; 10' Lg.

HEX NUT(S)  
FOR ADJUSTING  
LIGHT ANGLE

HEAT SINK (MATT BLACK ANODIZE)

MOUNTING BRACKET(S)

18.23 FROSTED LENS  
[462.9]

21.22 [539.1]

20.350 MOUNTING SLOTS  
[516.89]

.63 [15.9] MOUNTING SLOT

∅.343 SLOT [8.71]

Metaphase Technologies, Inc. 211 Sinclair Road, Suite 100, Bristol, PA. 19007 215-639-8699 Fax 215-639-0977

QUANTITY:	Per order
MATERIAL:	See BOM
FINISH:	Matt Black Anodize
TREATMENT:	N/A

TOLERANCE/FINISH UNLESS OTHERWISE SPECIFIED INCHES (MM) X .005 (0.127) X .003 (0.076) XXX (0.025) [FA3.2um] ANGLES ±1°	THIS DOCUMENT IS THE PROPERTY OF METAPHASE TECHNOLOGIES, INC. WHOM MAY LOAN IT. SUBJECT TO RETURN UPON DEMAND. IT INCLUDES CONFIDENTIAL & PROPRIETARY INFORMATION WHICH MAY NOT BE DISCLOSED TO ANY THIRD PARTY, AND/OR USED FOR ANY PURPOSE CONTRARY TO ITS INTENDED USE, WITHOUT THE EXPRESSED PRIOR WRITTEN CONSENT OF METAPHASE TECHNOLOGIES, INC.
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SEE SHEET 2 FOR EXPLODED VIEW AND BOM.

Approval Signature	Date
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TITLE: ISO2 Light-19" Long	
USED ON: Per customer	DRAWING NUMBER: ISO2-19-1
SIZE: B	REV: B
SCALE: 1:12	SHEET 1 OF 1

For more information please contact:



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COMPLIANCE



CONTACT US

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