



LED Visible Spectrum Lighting

2024



MADE IN THE USA

[relinc.com](http://relinc.com)



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# VISIBLE SPECTRUM

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Our Visible Spectrum LED lights are designed and built for high intensity, extreme frame rate >5 million frames per second scientific research cameras for the harshest environments on the planet.

REL has a decades-long tradition of manufacturing High Strain Rate Testing equipment for advanced materials research and understands the challenge of providing enough light to capture events on the microsecond time scale.



MANUFACTURED TO  
ISO 9001:2015

**WS1 - 16" LED RING**

**2**

**WS2 - 14" LED HEXAGON**

**10**

**WS3 - 7.5" LED HEXAGON**

**16**

**WS4 - 2.5" LED SQUARE**

**26**

**POWER SUPPLIES**

**37**

**WS SERIES OUTPUT DATA**

**49**

**PRICE LIST**

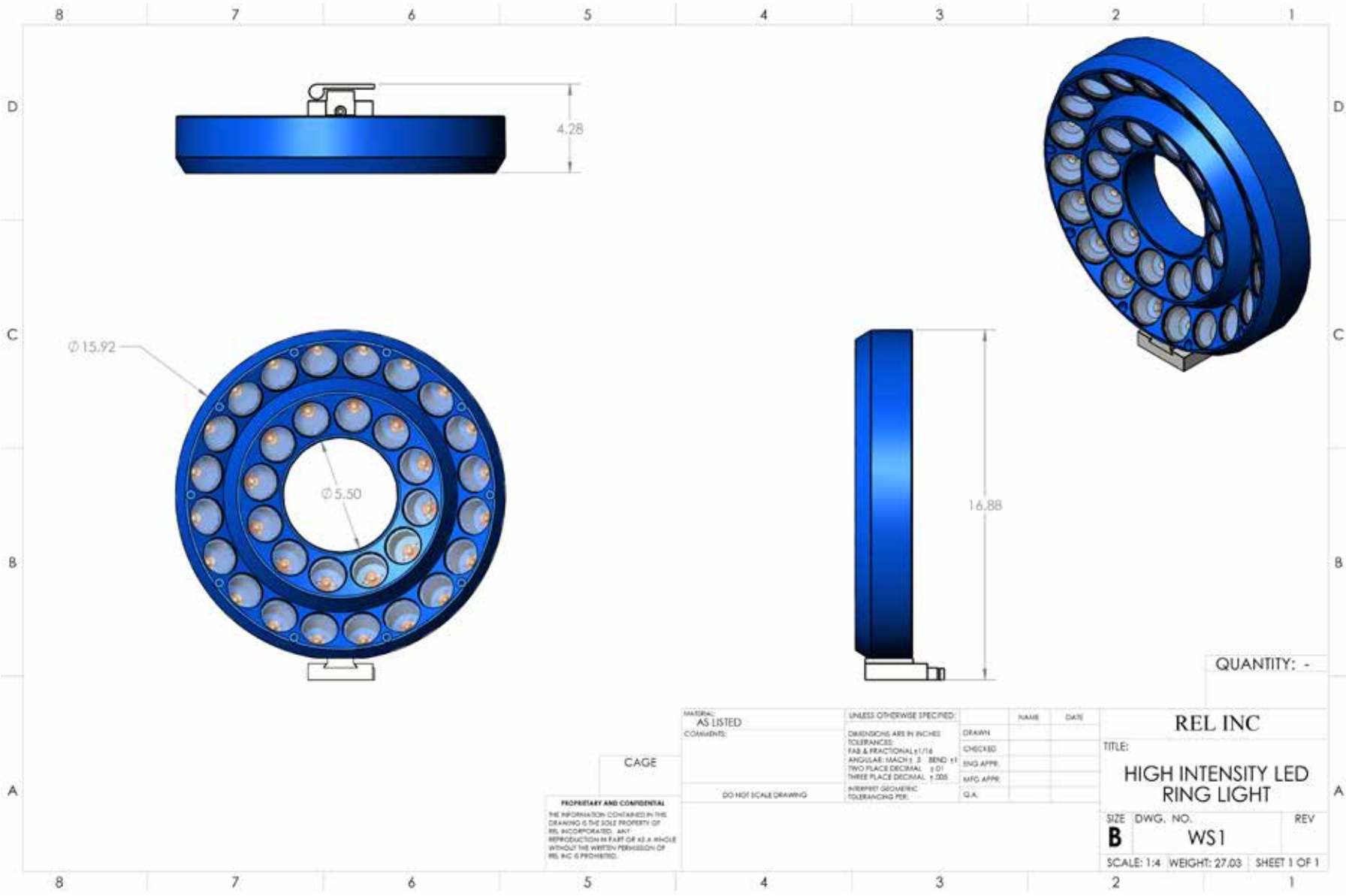
**50**



**WS1**

**16" LED RING**





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MATERIAL: AS LISTED	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FAB & FRACTIONAL ± 1/16 ANGULAR: BACH'S ± .01 TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 INTERPRET GEOMETRIC TOLERANCING PER:	NAME	DATE
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		ENG APPR.	
		MFG APPR.	
		Q.A.	

DO NOT SCALE DRAWING

<b>REL INC</b>		
TITLE:		
<b>HIGH INTENSITY LED RING LIGHT</b>		
SIZE	DWG. NO.	REV
<b>B</b>	<b>WS1</b>	
SCALE: 1:4		WEIGHT: 27.03
		SHEET 1 OF 1

# WS1

Finally, a reliable LED light for a 5 million fps camera. The visible spectrum WS1 allows the user to turn on and leave on during the test to avoid 'retesting due to triggering' that all experimentalists have experienced. This light focuses hundreds of watts of light power on an area of 1 in<sup>2</sup> at a fixed focal distance of 1 foot.

## EQUIPMENT HIGHLIGHTS

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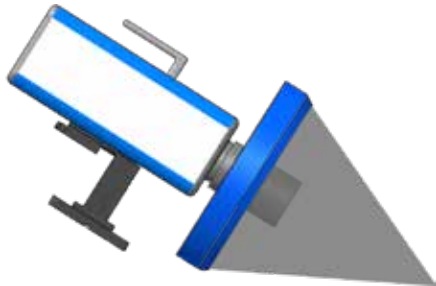
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- ▲ High intensity fixed focal point light source (10 Mlux peak intensity)
- ▲ Illumination for up to 5M frames per second in many configurations
- ▲ 100% Duty Cycle at Maximum Output
- ▲ Low IR with minimal sample heating
- ▲ Precise dimming output control using hand held remote
- ▲ Tripod mount option, and can work with any camera
- ▲ Durable and portable
- ▲ Dimensions: 16" OD x 6" ID x 2" Thick Ring
- ▲ Weight: 15 lbs.

## BEAM PROFILE

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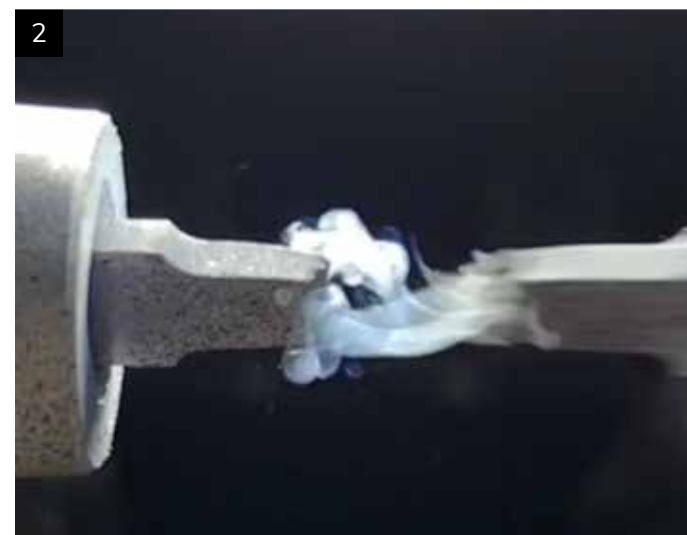
## INTERFACES WITH

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- ▲ Mounting Carriage (FBL-1000)
- ▲ Universal Tripod Mount (UTM-1800)
- ▲ Heavy Duty Gear Head (GBX-1000-M)

1. Hand-held CG2-100 Controller
2. Intense lighting for capturing high speed events
3. WS1 used on a REL High Strain Rate Testing System



7

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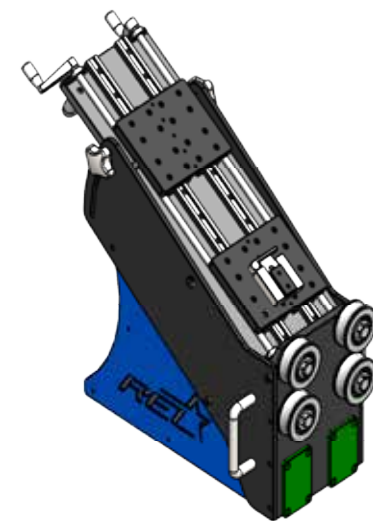
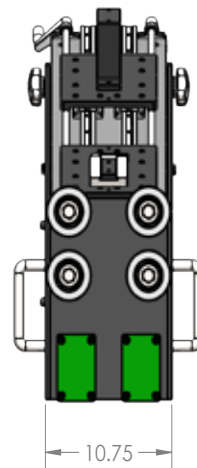
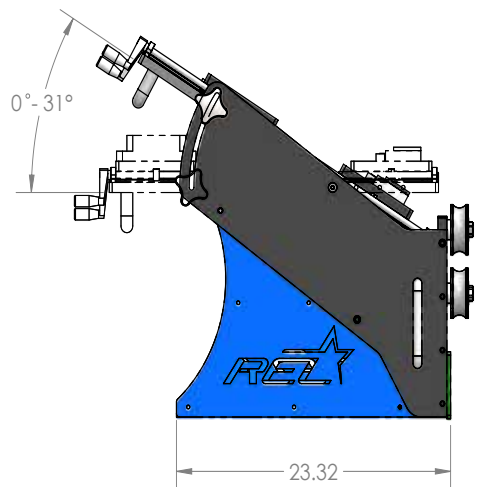
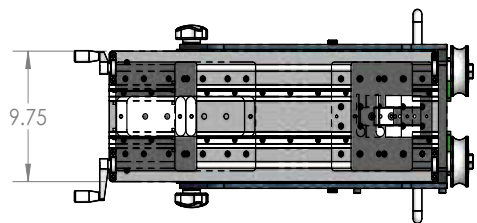
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		MFG APPR.		
		Q.A.		
DO NOT SCALE DRAWING				

<b>REL INC</b>		
TITLE: <b>MOUNTING CARRIAGE , CAMERA/LIGHTING</b>		
SIZE <b>B</b>	DWG. NO. <b>FBL-1000</b>	REV
SCALE: 1:10	WEIGHT: 92.21	SHEET 3 OF 3

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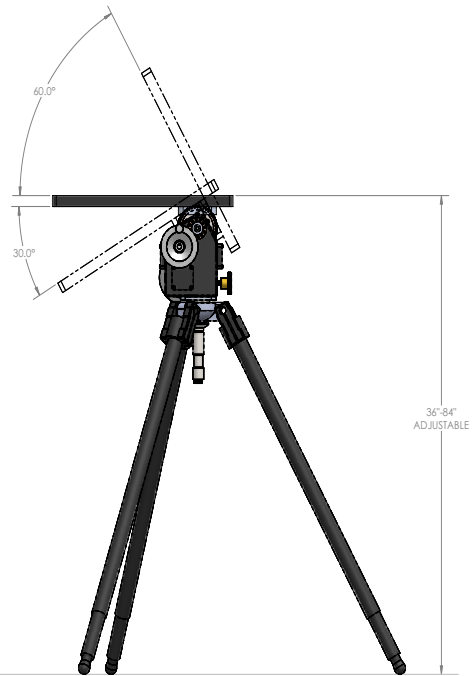
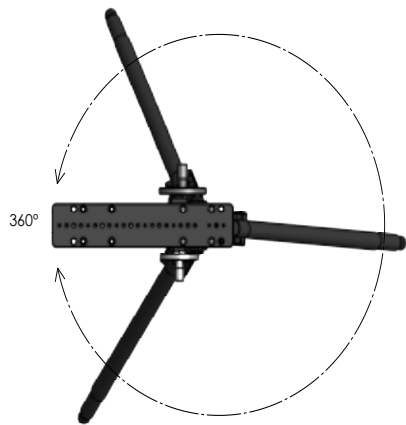
## MOUNTING CARRIAGE (FBL-1000)

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- ▲ Integrally mount your WS1 light and camera system to REL's SHPB base platform
- ▲ Rolling carriage allows for convenient positioning for high strain rate test events
- ▲ Dimensions: 36"x18"x28"
- ▲ Weight: 85 lbs.







QUANTITY: -

REL INC

TITLE:  
UNIVERSAL TRIPOD  
MOUNT SYSTEM

SIZE DWG. NO. REV  
D UTM-1800 A

SCALE: 1:4 WEIGHT: SHEET 1 OF 1

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
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	THREE PLACE DECIMAL	BY	
	INFERRED GEOMETRIC	DATE	
	CONVENTIONS:	C.A.	

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## UNIVERSAL TRIPOD MOUNT SYSTEM (UTM-1800)

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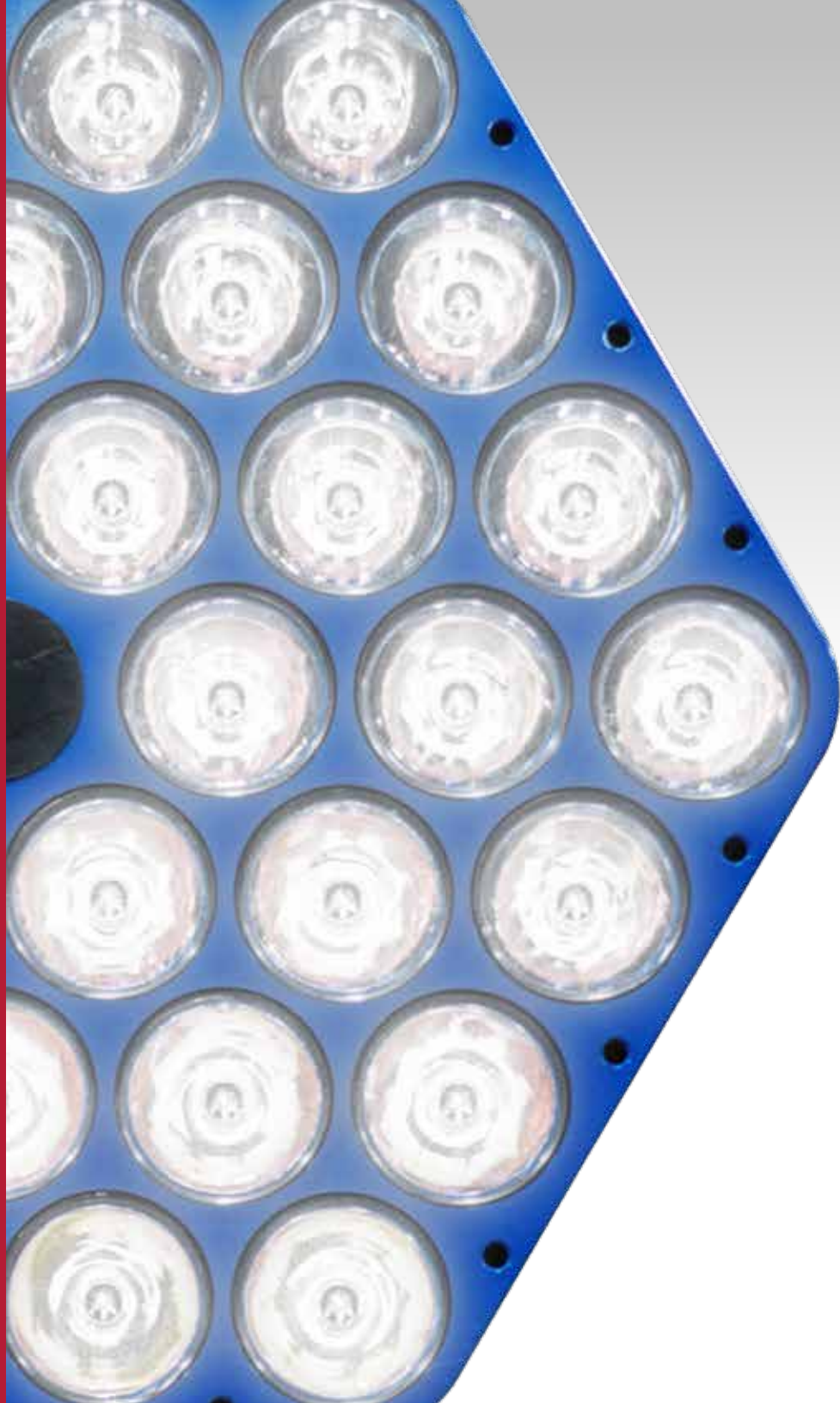
- ▲ Support 250 pounds of lighting and camera gear
- ▲ 36"-84" adjustable height
- ▲ Machined geared housing for 90 degrees of tilt control and 360 degrees of pan control (GBX-1000-M)

## HEAVY DUTY GEAR HEAD (GBX-1000-M)

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- ▲ Tripod Head
- ▲ Support 250 pounds of lighting and camera gear
- ▲ Machined geared housing for 90 degrees of tilt control and 360 degrees of pan control





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**WS2**

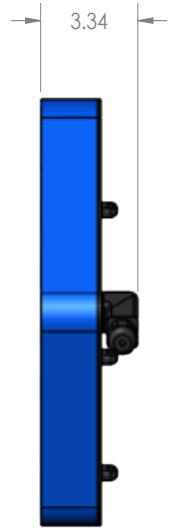
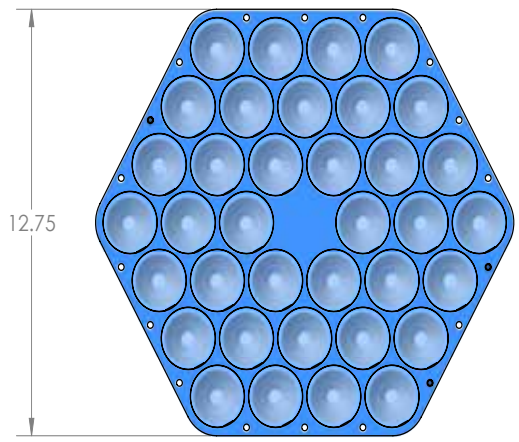
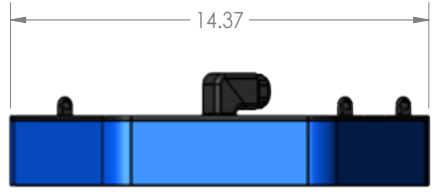
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**14" LED HEXAGON**



**WS2-K4 shown**

7 6 5 4 3 2 1



D  
C  
B  
A

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			MFG APPR.			<b>B</b> WS2
			Q.A.			SCALE: 1:4 WEIGHT: 16.61 SHEET 1 OF 1

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7 6 5 4 3 2 1

## WS2

Our WS2-K4 was purpose-built for capturing energetic events at millions of frames per second from up to 100 feet away. This quartet of TIR lens adjustable focusing brilliance allows the user to focus light on the dynamic event from a safe distance.

### EQUIPMENT HIGHLIGHTS

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- ▲ 150k lux (60k lumens) at 4m peak
- ▲ 600W continuous power per WS2 module
- ▲ 5 deg beam
- ▲ 0.3m spot at 4m
- ▲ 2400W continuous power for WS2-K4 kit
- ▲ Long range, up to 100' for safe recording of high energy events
- ▲ WS2-K4 runs on a standard 120V-20A circuit
- ▲ Up to 50' cord length
- ▲ Includes Magnetic Laser Alignment Sight for quick and accurate light beam focus

### INTERFACES WITH

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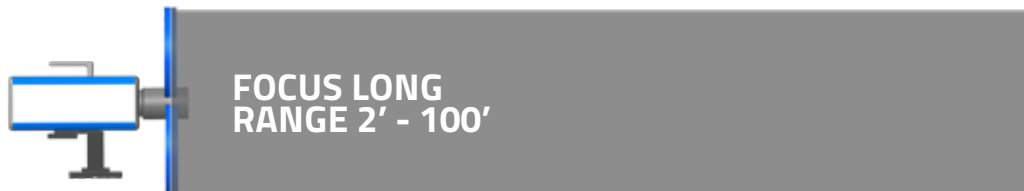
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- ▲ Universal Tripod Mount System (UTM-1800)
- ▲ Heavy Duty Gear Head (GBX-1000-M)

### BEAM PROFILE

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1. Hand-held CG2-100 Controller
2. Magnetic Laser Alignment Sight
3. Heavy Duty Gear Head (GBC-1000-M) for UTM-1800



## WS2-K

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- ▲ 14" LED Hexagon 4 Degree Spot Light Module
- ▲ 48 Volt 600W Continuous Power Supply (PS1-LITE)
- ▲ Magnetic Laser Alignment Sight
- ▲ TRM-200 Tripod Kit
- ▲ Hand-held CG2-100 Controller
- ▲ Pelican case



## WS2-K4

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- ▲ 4-14" LED Hexagon 4 Degree Spot Light Modules
- ▲ 48 Volt Power Supply (PS2-48)
- ▲ Magnetic Laser Alignment Sight
- ▲ Universal Tripod Mount System (UTM-1800)
- ▲ Hand-held CG2-100 Controller and integration hardware
- ▲ Pelican cases for packaging



## UNIVERSAL TRIPOD MOUNT SYSTEM (UTM-1800)

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- ▲ Support 250 pounds of lighting and camera gear
- ▲ 36"-84" adjustable height
- ▲ Machined geared housing for 90 degrees of tilt control and 360 degrees of pan control (GBX-1000-M)

## HEAVY DUTY GEAR HEAD (GBX-1000-M)

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- ▲ Tripod Head
- ▲ Support 250 pounds of lighting and camera gear
- ▲ Machined geared housing for 90 degrees of tilt control and 360 degrees of pan control





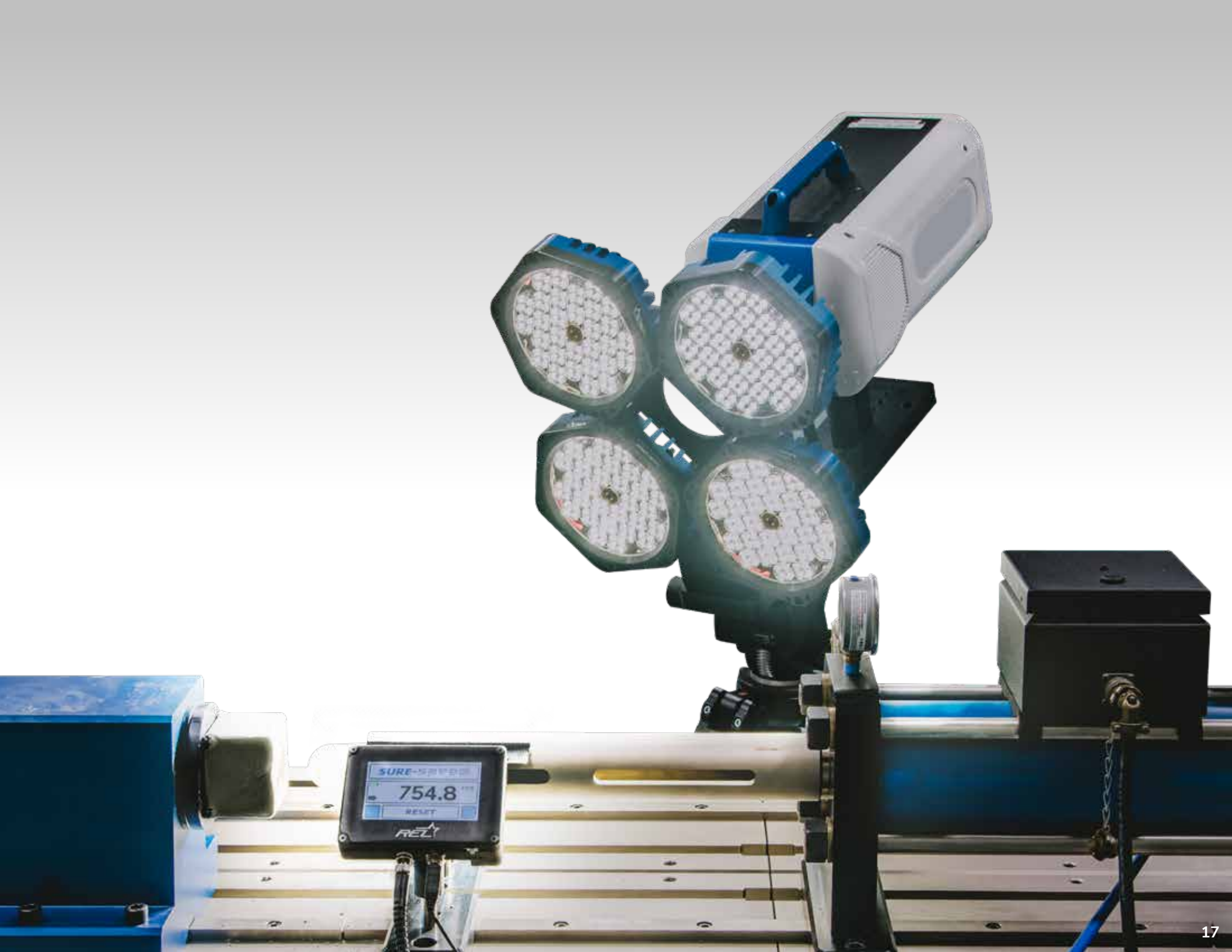


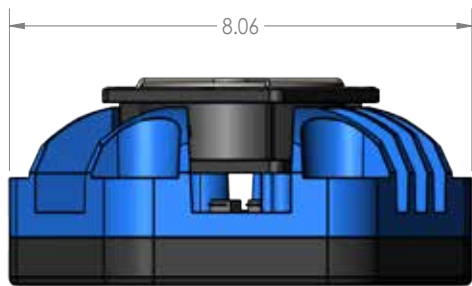
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**WS3**

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**7.5" LED HEXAGON**





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COMMENTS:	DIMENSIONS ARE IN INCHES TOLERANCES: FAB & FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm .5$ BEND $\pm 1$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	DRAWN			
		CHECKED		7.5" LED HEXAGON FLOOD LIGHT	
		ENG APPR.		SIZE DWG. NO. REV	
		MFG APPR.		B WS3	
		Q.A.		SCALE: 1:2 WEIGHT: 14.80 SHEET 1 OF 1	
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# WS3

Our WS3 light module is the core of REL's Visible Spectrum LED floodlighting solutions. This unit packs an extraordinary amount of power and versatility into a compact, durable, machined, military-grade aluminum housing unit that can withstand the rigors of dynamic test labs. Flying debris welcome!

## EQUIPMENT HIGHLIGHTS

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- ▲ 9.2k lux (66k lumens) at 4m peak continuous capacity using the PS1 power supply
- ▲ 29.5k lux (211k lumens) at 4m peak burst capacity using the PS4 power supply with on WS3
- ▲ WS3-PS4-K4: 106k lux (760k lumens) at 4m peak burst capacity using the PS4 power supply with 4 - WS3 light modules
- ▲ Includes Magnetic Laser Alignment Sight for quick and accurate light beam focus
- ▲ Thermal shut off protection
- ▲ Tripod ready and featuring 1/4-20 machined holes for a variety of mounting options
- ▲ 1.9m FWHM spot at 4m
- ▲ Up to 50' cord length
- ▲ 28 deg beam (WS3); 41 deg beam (WS3-41)
- ▲ Dimensions: 7.25"W x 8"H
- ▲ Weight: 5.8 lbs.
- ▲ -40F - +190F
- ▲ Vacuum rated - Tested to .005 mmHg
- ▲ IP67 rated

## INTERFACES WITH

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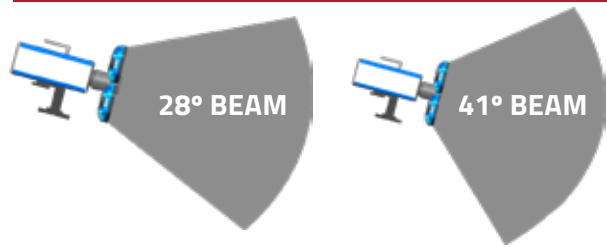
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- ▲ Universal Tripod Mount (UTM-1800)
- ▲ Heavy Duty Gear Head (GBX-1000-M)
- ▲ TRM-100 Tripod Kit

## BEAM PROFILE

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1. Array features
2. Hand-held CG2-100 Controller
3. Magnetic Laser Alignment Sight





## WS3-PS4-K2

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- ▲ 2 - 7.5" LED Hexagon 28 Degree Flood Light Modules
- ▲ 54 Volt, 4 Channel, 20kW output capacitive burst power supply w/ dimming
- ▲ Hand-held CG2-100 Controller
- ▲ 0-10V Trigger and Fan Override
- ▲ Magnetic Laser Alignment Sight
- ▲ 2 - TRM-100 Tripod Kits
- ▲ Pelican case







## WS3-K

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- ▲ 7.5" LED Hexagon 28 Degree Flood Light Module
- ▲ 54 Volt 600W continuous power supply (PS1-LITE)
- ▲ TRM-100 Tripod Kit
- ▲ Pelican case



## UNIVERSAL TRIPOD MOUNT SYSTEM (UTM-1800)

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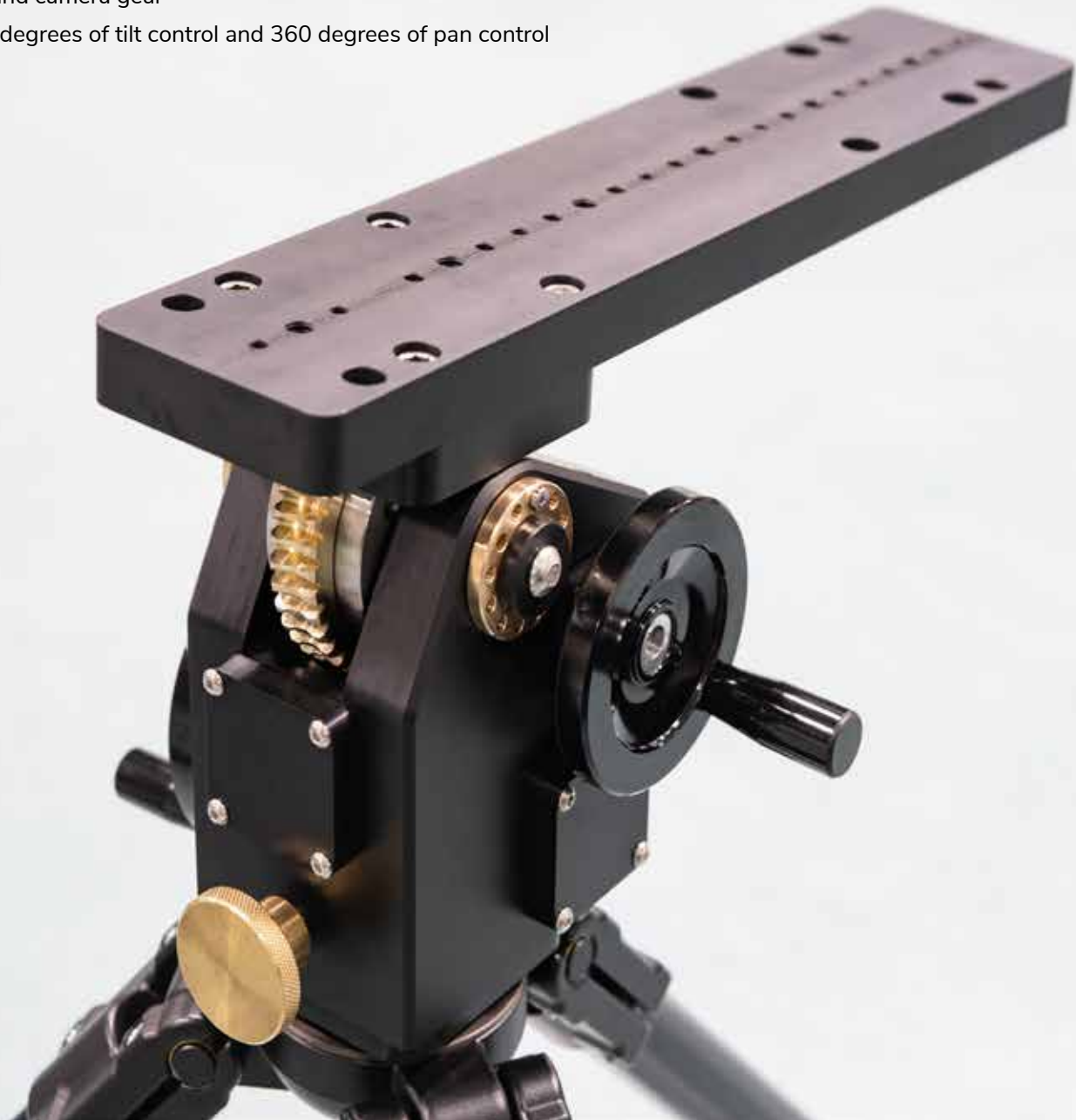
- ▲ Support 250 pounds of lighting and camera gear
- ▲ 36"-84" adjustable height
- ▲ Machined geared housing for 90 degrees of tilt control and 360 degrees of pan control

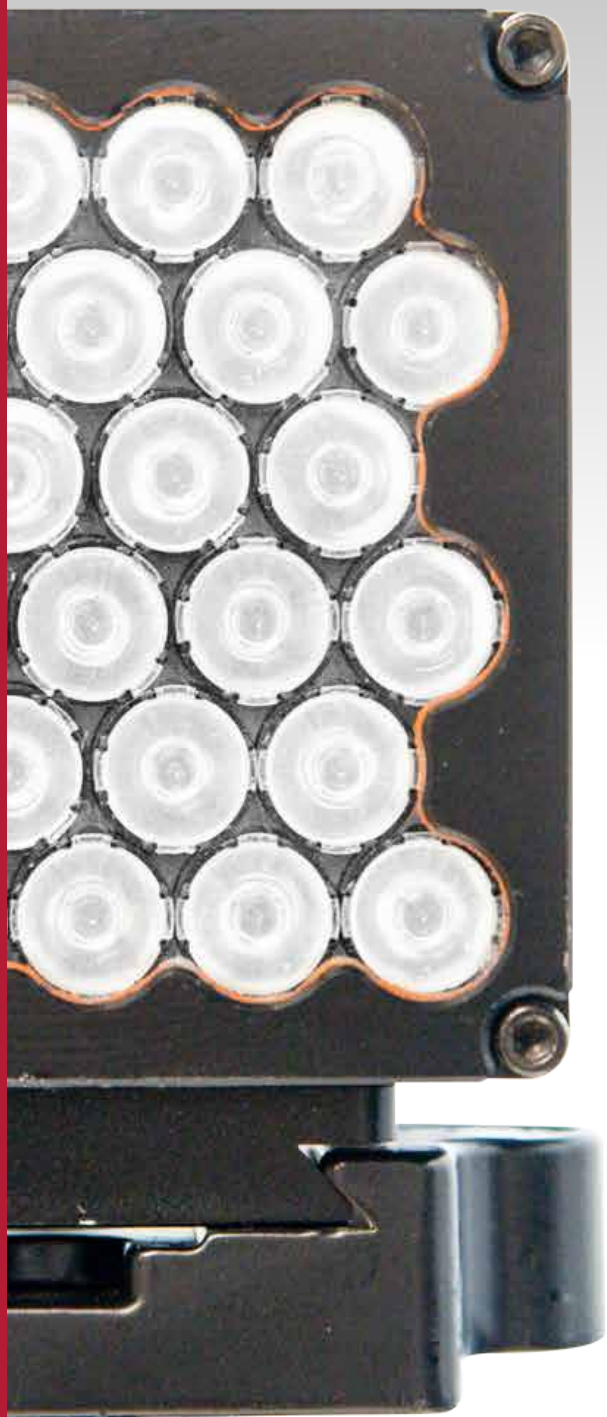


## HEAVY DUTY GEAR HEAD (GBX-1000-M)

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- ▲ Tripod Head
- ▲ Support 250 pounds of lighting and camera gear
- ▲ Machined geared housing for 90 degrees of tilt control and 360 degrees of pan control





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# WS4

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**2.5" LED SQUARE**





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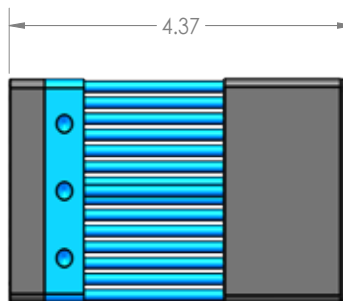
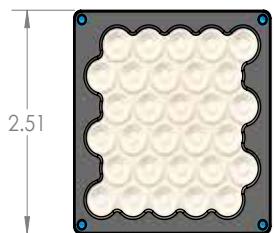
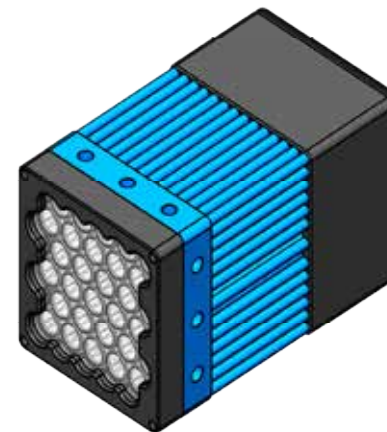
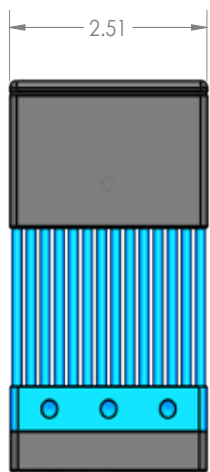
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			MFG APPR.		SCALE: 2:3	WEIGHT: 1.17	SHEET 1 OF 1
			Q.A.				

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## WS4

The WS4 light module is a compact and versatile high intensity light source for high speed video applications. Its high efficiency pin-fin fan-sink design allows for continuous duty light power densities that were previously only available with burst mode power supplies. This feature allows simplified High-Low control while remaining compact and quiet. The WS4 light module has an assortment of standardized mounting points on each side that allows it to be used individually with common tripods and ram mounts, or linked together in larger patterns with custom mounts. With a standard beam angle of 15 deg with options for angles up to 60 deg and custom color emitters, the WS4 can be tuned or scaled to any application.

### EQUIPMENT HIGHLIGHTS

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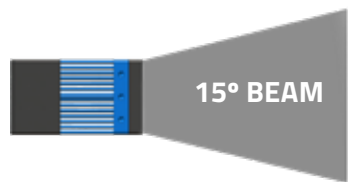
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- ▲ 240W continuous output
- ▲ 16,000 lumen
- ▲ 15 deg beam
- ▲ 40" spot at 4m
- ▲ 164k Candela
- ▲ 10.5k lux at 4m
- ▲ Dimensions: 2.5" x 2.5" x 4.24"
- ▲ Weight: 1.2 lbs.

### BEAM PROFILE

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1. Compact light for your high speed event
2. BNC dimming switch
3. WS4-K includes: 2.5" LED Square 15 Degree Spot Light Module, with integral 225W power supply with dimming switch (PS5), TRM-050 Tripod Kit, 10 foot extension cord, packed in a Pelican Case.



## WS4-PS6-K2

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- ▲ 2 - 2.5" LED square 15 deg spot light modules
- ▲ 1- PS6: 4 Channel, 120 Volt, 800W (200W per channel) Continuous Duty Output Power Supply with Remote Dimming Control
- ▲ 2 - TRM-050 Tripod Kits
- ▲ 2 - 10' extension cords
- ▲ Pelican case



## WS4 CUSTOM SPECTRUM

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- ▲ Special order options for various output wavelengths
- ▲ Narrow and wide bandwidth options
- ▲ Proven performance with Red, Green, Blue, IR, & UV emitter types
- ▲ Maintains full power input capacity
- ▲ Passive optical filter mount also available

## WS4 FILTER MOUNT

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- ▲ Additional impact and debris protection
- ▲ Compatible with standard 77mm lens filters and adapters
- ▲ Accepts glass disc inserts up to ¼" thick



# WS4 - 100 G RATED



# WS4 shown in servo flight tracking configuration



SHPB 3" baseball launch



High-speed baseball flight tracking



## WS4B-K

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- ▲ 2.5" LED square 15 deg spot light module
- ▲ 2 - 8 amp hour M18 batteries with 120V charger
- ▲ TRM-050 Tripod Kit
- ▲ Pelican case



## WS4B

The WS4B light module is a compact and versatile high intensity light source for high speed video applications. Its high efficiency pin-fin thermal control design allows for continuous duty LED light power. The WS4B light module has an assortment of standardized mounting points on each side that allows it to be used individually with common tripods and ram mounts, or linked together in larger patterns with custom mounts.

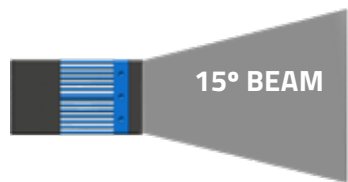
### EQUIPMENT HIGHLIGHTS

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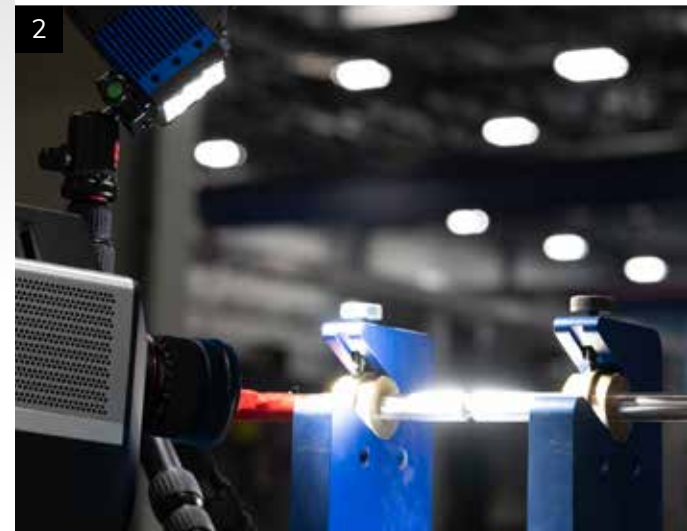
- ▲ 200W continuous output
- ▲ 16,000 lumens
- ▲ 15 degree beam
- ▲ 40" spot at 4m
- ▲ 164k Candela
- ▲ 10.5k lux at 4m
- ▲ Dimensions: 2.5" x 2.5" x 4.25"
- ▲ 2 hour run time with 8 amp hour M18 battery (output rated per ANSI/NEMA FL1 Standard)

### BEAM PROFILE

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1. Tripod mounting capability
2. Capture test events at a million fps with WS4B
3. WS4B-K includes: WS4B light module, 2 - 8 amp hour M18 batteries, charger, tripod kit (TRM-050), and Pelican case





# POWER SUPPLIES



PS5

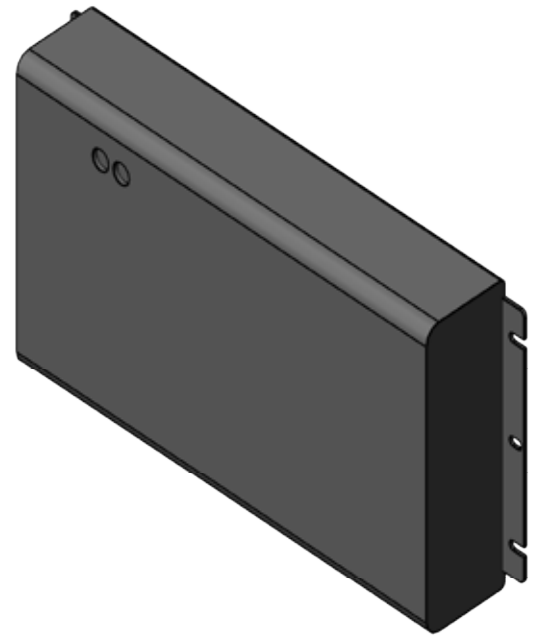
PS1-LITE

PS6

PS2

PS4

8 7 6 5 4 3 2 1



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		ANGULAR: MACH ±.5 BEND ±1	MFG APPR.		
		TWO PLACE DECIMAL ±.01			
		THREE PLACE DECIMAL ±.005			
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
	DO NOT SCALE DRAWING				

REL INC

TITLE:  
**54V, 600W CONT. POWER SUPPLY**

SIZE	DWG. NO.	REV
<b>B</b>	PS1-LITE	
SCALE: 1:2	WEIGHT: 7.54	SHEET 1 OF 2

8 7 6 5 4 3 2 1

## PS1-LITE

The PS1-LITE power supply is a continuous duty, flicker free, 54 Volt power supply for the WS3 LED light module. This power supply provides maximum power when plugged into a 120 Volt power supply. There is a dim switch included for light and camera setup purposes where full output is not desired. The PS1-LITE is available in multiple voltages depending on the REL Visible Spectrum LED lighting product chosen. The PS1-LITE-36 powers the WS1 and the PS1-LITE-48 powers the WS2.

### HIGHLIGHTS

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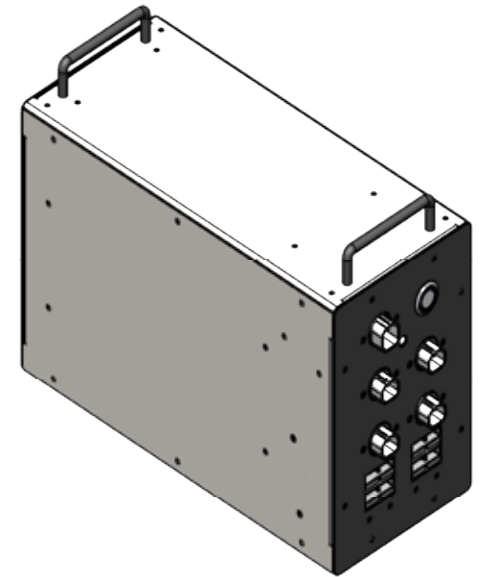
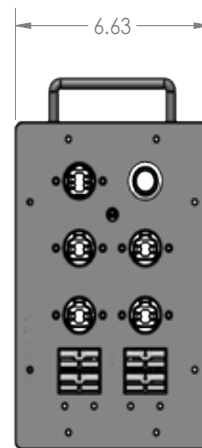
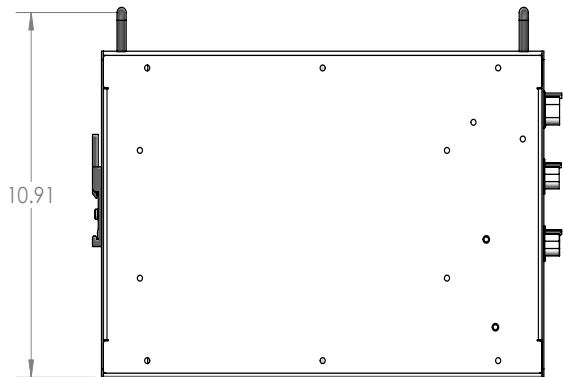
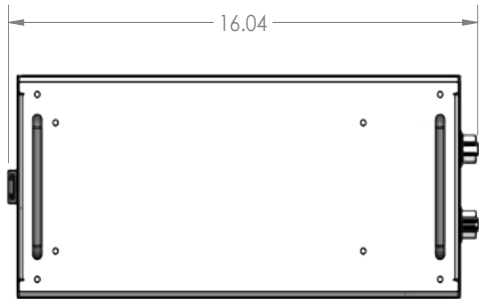
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- ▲ Compact 7" x 6" x 2"
- ▲ 54 Volt 600W continuous power output
- ▲ On/Off control
- ▲ Used to power WS1 and WS3 modules

1. Compact power supply for your lighting needs
2. PS1-LITE paired with WS3 Light Module
3. Hand-held CG2-100 Controller







QUANTITY: -

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		<p>COMMENTS:</p>	<p>DIMENSIONS ARE IN INCHES TOLERANCES: FAB &amp; FRACTIONAL ±1/16 ANGULAR: MACH ±.5 BEND ±1 TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005</p>	<p>CHECKED</p>				<p>TITLE:</p>
		<p>DO NOT SCALE DRAWING</p>	<p>INTERPRET GEOMETRIC TOLERANCING PER:</p>	<p>ENG APPR.</p>				<p>4 CHANNEL, 2.4 KW, CONTINUOUS POWER SUPPLY</p>
				<p>MFG APPR.</p>				<p>SIZE DWG. NO. REV</p>
				<p>Q.A.</p>			<p><b>B</b> PS2</p>	
							<p>SCALE: 1:4 WEIGHT: 43.14 SHEET 1 OF 1</p>	

## PS2

The PS2 power supply is a continuous duty, flicker free, 4 channel, (this power supply will power 1 to 4 WS3 LED light modules) 54 Volt power supply for the WS3 module. This power supply provides maximum power when triggered while being plugged into a 120 Volt power supply and the dimmable controller is set all the way clockwise. This power supply can also be triggered by a 10 volt signal connected via BNC cable to the trigger port. The fan override switch will turn off the cooling fans for ultra-quiet operation.

CAUTION: The duty cycle of the WS3 module with the cooling fan override switch engaged drops to 20% attached to the PS2 power supply. The PS2 is also available in 48 Volts for the REL WS2 LED light modules.

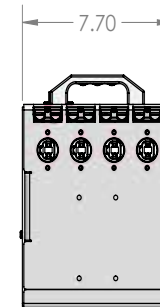
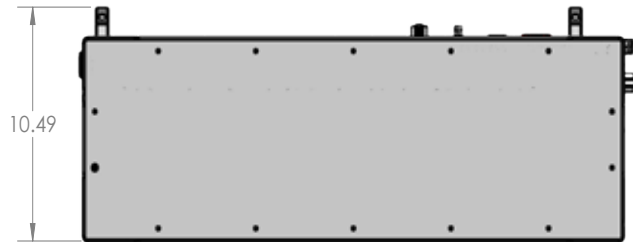
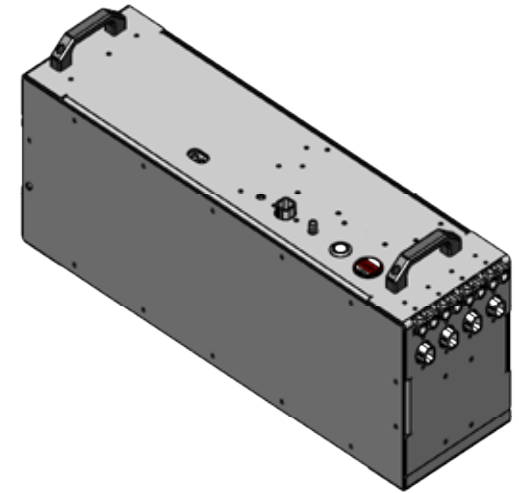
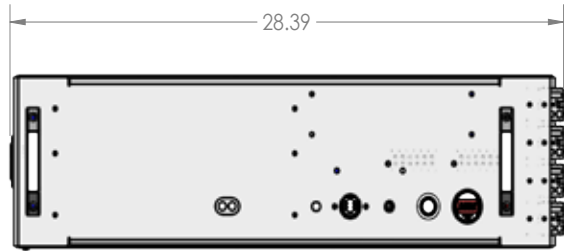
### HIGHLIGHTS

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- ▲ PS2-54 includes: 4 Channel, 54 Volt, 2.4kW output power supply w/dimming, CG2-100 Controller, 0-10V Trigger, and Fan Override (For WS3 Light Module)
- ▲ PS2-48 includes: 4 Channel, 48 Volt, 2.4kW output power supply w/dimming, CG2-100 Controller, 0-10V Trigger, and Fan Override (For WS2 Light Module)
- ▲ 4 Channels
- ▲ 0-10V Trigger and fan override

1. PS2 for WS3 modules
2. PS2-48 for WS2-K4-TRM
3. Hand-held CG2-100 Controller





QUANTITY: -

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CAGE

MATERIAL: AS LISTED	UNLESS OTHERWISE SPECIFIED:	NAME	DATE	<b>REL INC</b> TITLE: <b>4 CHANNEL, 20KW,          CAPACITIVE POWER SUPPLY</b>
COMMENTS:	DIMENSIONS ARE IN INCHES TOLERANCES: FAB & FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm .5$ BEND $\pm 1$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	DRAWN		
		CHECKED		
		ENG APPR.		
		MFG APPR.		
DO NOT SCALE DRAWING	INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		SIZE DWG. NO. REV
				<b>B</b> PS4
				SCALE: 1:6 WEIGHT: 60.06 SHEET 1 OF 1

## PS4

The PS4 power supply is a capacitive burst, flicker free, 4 channel (this power supply will power 1 to 4 WS3 LED light modules) 54 Volt power supply for the WS3 modules. This power supply provides maximum power when triggered after being plugged into a 120 Volt power supply and the power supply is charged to 57 volts. Triggering can be accomplished by either sending a 5-15 VDC signal via BNC trigger port or by manually pressing the burst button. The fan override switch will turn off the cooling fans for ultra-quiet operation. CAUTION: The duty cycle of the WS3 light module with the cooling fan override switch engaged drops to 10% with the PS4 power supply.

### HIGHLIGHTS

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- ▲ 20kW output capacitive burst power supply
- ▲ 4 Channels
- ▲ 5-15 VDC Trigger and fan override
- ▲ Hand-held CG2-100 Controller
- ▲ Used to power WS3 Modules



1. PS4 Power Supply for WS3 light modules
2. WS3-PS4-K4-TRM shown
3. Hand-held CG2-100 Controller

7

6

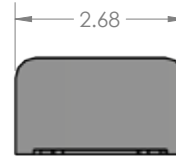
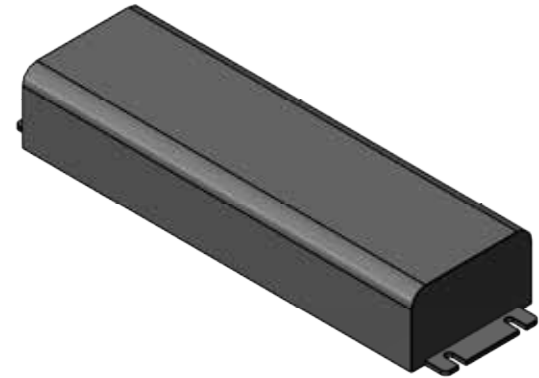
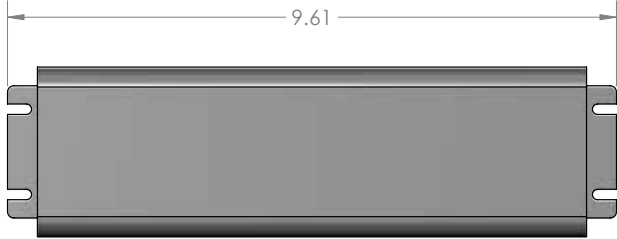
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D

C

B

QUANTITY: -

MATERIAL: Material <not specified>	UNLESS OTHERWISE SPECIFIED:	NAME	DATE
COMMENTS:	DIMENSIONS ARE IN INCHES TOLERANCES: FAB & FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm .5$ BEND $\pm 1$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	DRAWN	
	INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED	
		ENG APPR.	
		MFG APPR.	
		Q.A.	

CAGE

DO NOT SCALE DRAWING

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REL INC

TITLE:  
**225W POWER SUPPLY FOR WS4**

A

SIZE	DWG. NO.	REV
<b>B</b>	PS5	

SCALE: 1:2	WEIGHT: 2.87	SHEET 1 OF 1
------------	--------------	--------------

7

6

5

4

3

2

1

## PS5

The PS5 is REL's most compact single channel power supply. It is calibrated to run a single WS4 LED light module off 120VAC power. Basic High-Low dimming function is included with a BNC dimming port and switch.

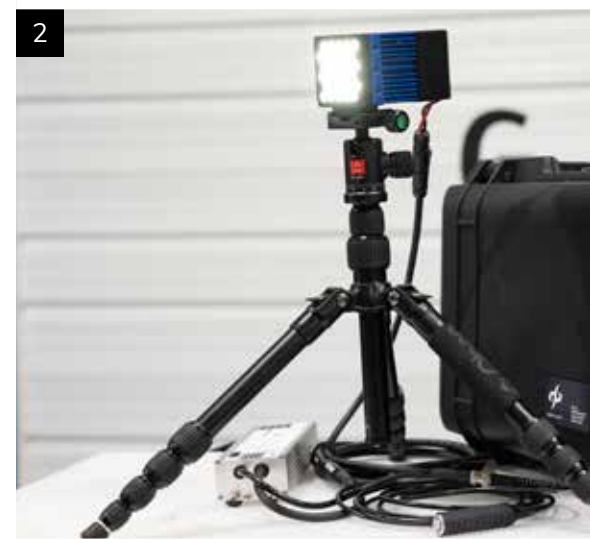
### HIGHLIGHTS

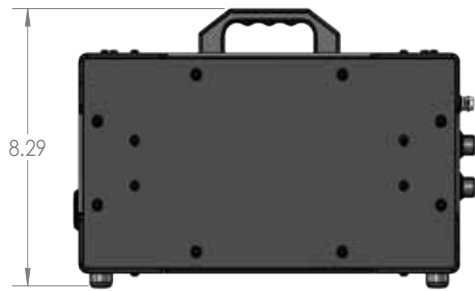
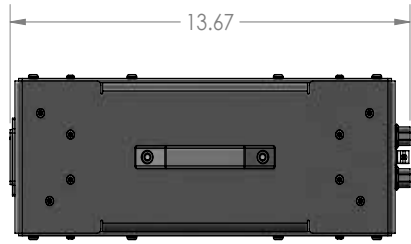
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- ▲ Provides 225 Watts of regulated DC power to a single WS4
- ▲ Remote dimming control port (BNC)
- ▲ 2.9 lbs. – 9.6" L x 2.7" W x 1.75" H

- 
1. Powers one WS4 light module
  2. PS5 shown with WS4-K
  3. BNC Dimming Switch





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CAGE

MATERIAL: AS LISTED	UNLESS OTHERWISE SPECIFIED:	NAME	DATE
COMMENTS:	DIMENSIONS ARE IN INCHES TOLERANCES: FAB & FRACTIONAL ±1/16 ANGULAR: MACH ±.5 BEND ±1 TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	DRAWN	
		CHECKED	
		ENG APPR.	
		MFG APPR.	
DO NOT SCALE DRAWING	INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.	

<b>REL INC</b>		
TITLE: <b>4 CHANNEL, 800W CONTINUOUS POWER SUPPLY</b>		
SIZE <b>B</b>	DWG. NO. <b>PS6</b>	REV
SCALE: 1:4	WEIGHT: 16.21	SHEET 1 OF 1

## PS6

The PS6 is REL's most compact, lightweight multi-head power supply. It can simultaneously power four WS4 LED light modules while delivering excellent portability and ease of setup. The WS4-PS6-K4 combination makes a great lightweight kit for applications requiring compact setups with multiple lighting angles.

### HIGHLIGHTS

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- ▲ Provides 200 Watts of regulated DC power for each lamp (800 Watts total)
- ▲ Illuminated main power switch
- ▲ Remote dimming control port (BNC)
- ▲ 15 lbs. - 14" L x 9" H x 5"W

- 
1. Powers up to 4 WS4 light modules
  2. WS4-PS6-K4 shown
  3. Input: 120VAC 8A





**WS1-16" LED RING**



**WS2-14" LED HEXAGON**



**WS3-7.5" LED HEXAGON**



**WS4-2.5" LED SQUARE**



# WS SERIES OUTPUT DATA

WS Series White Performance									
Model	Power Supply	Power Output	Beam Angle	kCandela (klux@1m)	kLumen		klux	Spot Size (m)	Distance (m)
WS1	PS1-36V	600W	-	-	50		10,000	0.0	0.300
WS2	PS1-48V	600W	5 Deg	2400	60		600	0.2	2.0
WS2-K4	PS2-48V (4xWS2)	2400W	5 Deg	9600	240		2400	0.2	2.0
WS3	PS1-54V	600W	28 Deg	147	66		37	1.0	2.0
WS3	PS2-54V (4xWS3)	2400W	28 Deg	588	264		147	1.0	2.0
WS3-WA	PS1-54V	600W	41 Deg	58	66		15	1.5	2.0
WS3-WA	PS2-54V (4xWS3)	2400W	41 Deg	232	264		58	1.5	2.0
WS3-BURST	PS4-57V (1xWS3)	3.5kW	28 Deg	472	211		118	1.0	2.0
WS3-BURST	PS4-57V (2xWS3)	6kW	28 Deg	880	394		220	1.0	2.0
WS3-BURST	PS4-57V (4xWS3)	11kW	28 Deg	1696	760		424	1.0	2.0
WS4	PS5-54V	240W	15 Deg	164	16		41	0.5	2.0
WS4-WA	PS5-54V	240W	55 Deg	12	16		3	2.1	2.0
WS4	PS6-54V (4xWS4)	960W	15 Deg	656	64		164	0.5	2.0

WS Series Color Performance									
Model	Power Supply	Power Output	Beam Angle	W/cm <sup>2</sup> (@ 1m)	Wave Length		W/cm <sup>2</sup>	Spot Size (m)	Distance (m)
WS4-RED	PS5-54V	200W	18 Deg	33	520 nm		8.3	0.6	2.0
WS4-GREEN	PS5-54V	220W	18 Deg	21	630 nm		5.3	0.6	2.0

## REL, Inc. 2024 Price List - WS LED Visible Spectrum Lighting

Page Number	Model/Part Number	Description	Retail Price (USD)
<b>WS1 - 16" LED Ring</b>			
<b>Kit</b>			
2	WS1-K	16" Ring LED Light Assembly with integral 600W Power Supply with dimming, CG2-100 Controller, Pelican Case (Mounting options sold separately)	\$ 17,850.00
<b>Components</b>			
7	FBL-1000	Mounting Carriage for WS1	\$ 7,075.00
9	UTM-1800	Universal Tripod Mount System, 250 lb. capacity, 36" - 84" adjustable height, machined geared housing for 90 degrees of tilt control and 360 degrees of pan control	\$ 8,125.00
<b>WS2 - 14" LED Hexagon</b>			
<b>Kits</b>			
14	WS2-K	14" LED Hexagon 4 Degree Spot Light Module, with integral 600W 48 Volt Power Supply (PS1-LITE-48), TRM-200 Tripod Kit, Magnetic Laser Alignment Sight, CG2-100 Controller, Pelican Case	\$ 11,000.00
14	WS2-K4	4 - 14" LED Hexagon 4 Degree Spot Modules, 48 Volt Power Supply (PS2-48), Magnetic Laser Alignment Sight, Universal Tripod Mount (UTM-1800), CG2-100 Controller, and integration hardware for adjustable focus from 2' - 100', multiple Pelican Cases.	\$ 40,000.00
41	WS2-K4-TRM	4 - 14" LED Hexagon 4 Degree Spot Modules, 48 Volt Power Supply (PS2-48), Magnetic Laser Alignment Sight, 4 - TRM-200 Tripod Kits, CG2-100 Controller, and integration hardware for adjustable focus from 2' - 100', multiple Pelican Cases.	\$ 40,000.00
<b>Components</b>			
12	WS2	14" LED Hexagon 4 Degree Spot Light Module (No power supply)	\$ 6,295.00
39	PS1-LITE-48	48 Volt 600W Continuous Power Supply (For WS2 Light Module)	\$ 2,595.00
41	PS2-48	4 Channel, 48 Volt, 2.4kW output power supply w/dimming, CG2-100 Controller, 0-10V Trigger, and Fan Override (For WS2 Light Module)	\$ 6,300.00
-	WS2-C25	25' Extension Cable for the WS2	\$ 360.00
-	WS2-C50	50' Extension Cable for the WS2	\$ 495.00
14	TRM-200	Tripod Kit, adjustable with ball head, 12" - 62" height, 55lb capacity, ARCA adaptor	\$ 1,855.00
-	WS2-INT	WS2 Integration Fixtures	\$ 1,500.00

## REL, Inc. 2024 Price List - WS LED Visible Spectrum Lighting

Page Number	Model/Part Number	Description	Retail Price (USD)
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### WS3 - 7.5" LED Hexagon

#### Kits

23	WS3-K	7.5" LED Hexagon 28 Degree Flood Light Module, 54 Volt 600W Continuous Power Supply (PS1-LITE), TRM-100 Tripod Kit, Pelican Case	\$ 8,800.00
21	WS3-PS4-K2	2 - 7.5" LED Hexagon 28 Degree Flood Light Modules; 1 - 54 Volt, 4 Channel, 20kW output capacitive burst power supply w/dimming; CG2-100 Controller; 5-15V Trigger and Fan Override; (PS4); Magnetic Laser Alignment Sight; 2 - TRM-100 Tripods Kits; Pelican case	\$ 21,000.00
-	WS3-PS2-K2	2 - 7.5" LED Hexagon 28 Degree Flood Light Modules; 1 - 54 Volt, 4 Channel, 2.4 kW output power supply w/dimming; CG2-100 Controller; 0-10V Trigger and Fan Override (PS2); Magnetic Laser Alignment Sight; 2 - TRM-100 Tripod Kits; Pelican case	\$ 19,000.00
43	WS3-PS4-K4-TRM	4 - 7.5" LED Hexagon 28 Degree Flood Light Modules; 1 - 54 Volt, 4 Channel, 20kW output capacitive burst power supply w/dimming; CG2-100 Controller; 5-15V Trigger and Fan Override (PS4); Magnetic Laser Alignment Sight; 4 - TRM-100 Tripod Kits; Pelican case	\$ 34,000.00
24	WS3-PS4-K4	4 - 7.5" LED Hexagon 28 Degree Flood Light Modules; 54 Volt, 4 Channel, 20kW output capacitive burst power supply w/dimming; CG2-100 Controller; 5-15V Trigger and Fan Override (PS4); Magnetic Laser Alignment Sight; 1- UTM Tripod Mounting System(UTM-1800); Pelican case	\$ 39,000.00

#### Components

18	WS3	7.5" LED Hexagon 28 Degree Flood Light Module (No power supply)	\$ 5,720.00
18	WS3-41	7.5" LED Hexagon 41 Degree Flood Light Module (No power supply)	\$ 5,720.00
39	PS1-LITE	54 Volt 600W Continuous Power Supply (For WS3 Light Module)	\$ 2,585.00
41	PS2-54	4 Channel, 54 Volt, 2.4kW output power supply w/dimming, CG2-100 Controller, 0-10V Trigger, and Fan Override (For WS3 Light Module)	\$ 6,295.00
43	PS4	4 Channel, 20kW output capacitive power supply w/dimming, CG2-100 Controller, 5-15V Trigger, and Fan Override (For WS3 Light Module)	\$ 8,430.00
8	UTM-1800	Universal Tripod Mount System, 250 lb. capacity, 36" - 84" adjustable height, machined geared housing for 90 degrees of tilt control and 360 degrees of pan control	\$ 8,125.00
25	GBX-1000-M	Heavy Duty Gear Head	\$ 6,525.00
23	TRM-100	Tripod Kit, adjustable with ball head, 12" - 62" height, 27lb capacity, ARCA adaptor	\$ 465.00
-	WS3-C25	25' Extension Cable for the WS3	\$ 750.00
19	CG2-100	Remote Controller w/12' lead for WS Lighting	\$ 690.00

## REL, Inc. 2024 Price List - WS LED Visible Spectrum Lighting

Page Number	Model/Part Number	Description	Retail Price (USD)
<b>WS4 - 2.5" LED Square</b>			
<b>Kits</b>			
29	WS4-K	2.5" LED Square 15 Degree Spot Light Module, with integral 225W power supply with dimming switch (PS5), TRM-050 Tripod Kit, 10 foot extension cord, packed in a Pelican Case	\$ 3,400.00
-	WS4-PS6-K	2.5" LED Square 15 Degree Spot Light Module, 1- 4 Channel, 120 Volt, 800W (200W per channel) Continuous Duty Output Power Supply with Remote Dimming Control (PS6); 1 - TRM-050 Tripod Kit, 1 -10 foot extension cords, packed in a Pelican Case	\$ 6,380.00
30	WS4-PS6-K2	2 - 2.5" LED Square 15 Degree Spot Light Modules, 1- 4 Channel, 120 Volt, 800W (200W per channel) Continuous Duty Output Power Supply with Remote Dimming Control (PS6); 2 - TRM-050 Tripod Kits, 2 -10 foot extension cords, packed in a Pelican Case	\$ 9,250.00
47	WS4-PS6-K4	4 - 2.5" LED Square 15 Degree Spot Light Modules, 1- 4 Channel, 120 Volt, 800W (200W per channel) Continuous Duty Output Power Supply with Remote Dimming Control (PS6); 4 - TRM-050 Tripod Kits, 4 -10 foot extension cords, packed in a Pelican Case	\$ 15,300.00
34	WS4B-K	2.5" LED Square 15 Degree Spot Light Module; 2- 8 amp hour M18 batteries with 120V charger; TRM-050 Tripod Kit; packed in a Pelican Case	\$ 3,900.00
<b>Components</b>			
27	WS4	2.5" LED Square 15 Degree Spot Light Module (No power supply)	\$ 2,525.00
31	WS4-RED	2.5" LED Square 15 Degree Spot Light Module, Custom Red Emitters (No power supply)	\$ 3,150.00
31	WS4-GREEN	2.5" LED Square 15 Degree Spot Light Module, Custom Green Emitters (No power supply)	\$ 3,150.00
-	WS4-BLUE	2.5" LED Square 15 Degree Spot Light Module, Custom Blue Emitters (No power supply)	\$ 3,150.00
31	WS4-FM	Filter Mount for WS4	\$ 675.00
45	PS5	225W Power Supply for WS4	\$ 400.00
47	PS6	4 Channel, 120 Volt, 800W (200W per channel) Continuous Duty Output Power Supply with Remote Dimming Control	\$ 3,225.00
45	TRM-050	Tripod Kit, adjustable tripod with ball head, 12" - 62" height, 27lb capacity, ARCA adaptor	\$ 465.00
-	WS4-C10	10' Extension Cable for the WS4	\$ 180.00
-	WS4-C20	20' Extension Cable for the WS4	\$ 300.00
-	WS4-C50	50' Extension Cable for the WS4	\$ 400.00
<b>REL, Inc. 57640 North Eleventh Street, Calumet, MI 49913 www.relinc.com 906-337-3018</b>			



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