COBRA™ MultiSpec

Multispectral LED Line Light

RGB–SWIR MULTISPEC

MULTISPEC

Multispectral Pulsed Illumination for Optimal Image Acquisition

COBRA™ MultiSpec has been designed to deliver multispectral tunable illumination allowing you to optimize your image acquisition. With discrete control of each wavelength via an intuitive graphical user interface you can maximize contrast by choosing the optimum spectral profile and providing more intensity at specific wavelengths to suit your application needs.

The new COBRA MultiSpec RGB-SWIR has been designed to deliver both high powered RGB light in combination with dedicated SWIR wavelengths within a single line light source. Through the use of chip-on-board technology and independent, on-board strobe capabilities; this COBRA MultiSpec offers the possibility to significantly simplify, and improve the performance of your vision system.

RGB, RGB-IR (855nm) and RGB-White (3500K) configurations are also available as standard. COBRA MultiSpec can be configured with up to 12 wavelengths to suit your application needs. Custom configurations are also available.

The award-winning COBRA MultiSpec with its user-friendly GUI, offers precise control of the light enabling system designers to easily fine-tune the performance of their system. Offering discrete control of each wavelength, users can select the optimum wavelength balancing and relative intensities specific to the application's needs. COBRA MultiSpec can be configured to strobe all strobe lines together or up to 4 groups of wavelengths sequentially with a total delay and response time profile of less than one microsecond (1µs).

COBRA MultiSpec is built on the established, compact COBRA Slim & Max platform and utilizes Chip-on-Board LED technology to ensure extreme brightness and excellent uniformity and features field adjustable optics allowing you to select the optimum lens position for your application. COBRA MultiSpec is modular and available in any length up to 6m.

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Key Features

- Standard Wavelength Configurations as well as Customized or Custom Options
- Extreme Brightness and High Uniformity
- Compact Form Factor
- Modular: Available in any Length up to 6m
- Integrated Strobe and Ethernet Control
- Up to Four Independent Strobe Lines
- Input Power Monitoring and Error Detection

Key Applications

- Multispectral Imaging
- Food Sorting, Grading and Analysis
- Material Inspection
- Sorting of Recyclable Material

Typical Spectral Characteristics

Color		Blue	Green	Red	IR	SWIR	SWIR
Peak Wavelength	nm	445 ± 5	532.5 ± 2.5	630 ± 10	855 ± 15	1150 ± 50	1450 ± 50
Spectral Width FWHM	nm	21	35	20	25	53	75

Typical Maximum Irradiance & Illuminance(2)

Typical Maximum Irradiance (Wm-2)							
Colour	Blue	Green	Red	White	855nm	1150nm	1450nm
RGB	1960	1960	1512	-	-	-	-
RGB - W	1470	1470	1134	1410	-	-	-
RGB - IR	470	470	357	-	470	-	-
RGB - SWIR	490	490	580	-	-	39	99

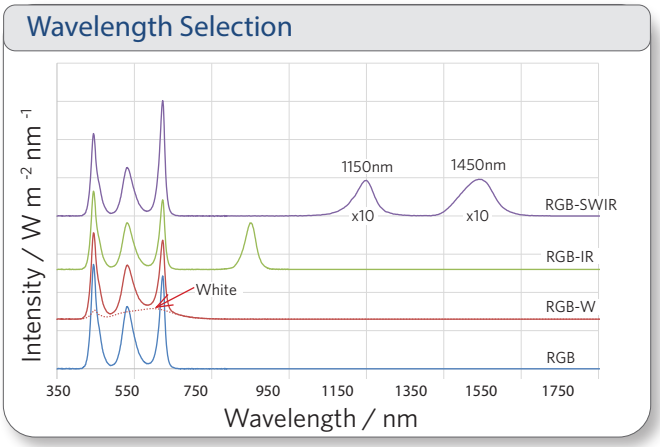
(2) *Values presented correlate to the integrals of the graphs shown on page 3

Focus & Illumination Field(4)

Lens Position	Working Distance Range (mm)		Working Distance at Peak Intensity (mm)		Line Width (FWHM) at WD (mm)		Focal Distance (mm)	Line Width at Focal Distance (mm)
Unit Length	100mm	300mm	100mm	300mm	100mm	300mm	All Lengths	All Lengths
S1	10-53	10-105	divergent	divergent	14.0-15.6	14.0-19.4	divergent	divergent
S2	10-61	10-112	divergent	divergent	12.8-13.8	12.8-16.5	divergent	divergent
S3	10-68	10-132	collimated	collimated	11.0-12.5	11.0-13.1	collimated	collimated
S4	10-85	10-150	10	10	8.7-11.5	8.7-11.5	88	8.7
S5	10-103	10-142	10	10	6.6-10.8	6.6-10.8	88	6.6
S6	10-108	10-130	10	10	5.4-9.9	5.4-9.9	71	5.4
S7	10-61	10-67	15	55	4.3-9.2	4.3-9.2	63	43
S8	10-55	10-57	42	46	3.8-8.3	8.3-3.8	56	3.8
S9	10-49	10-52	41	42	3.4-7.5	3.4-7.5	50	3.4

(3) Values presented are for a White COBRA and intended to provide representative information. Actual values will vary depending on wavelength and/or configuration.

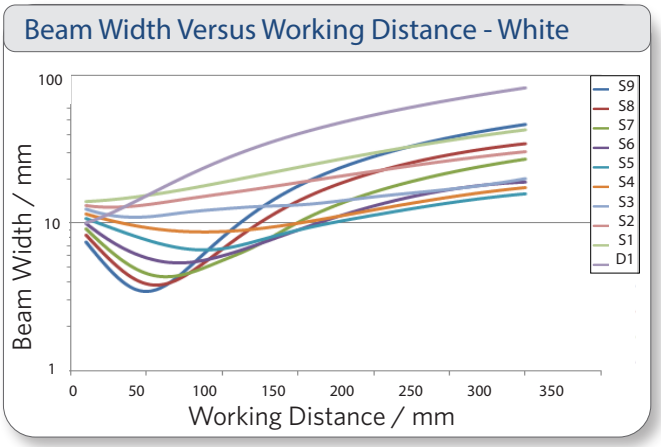
Wavelength Selection



Note: The integrals for the spectra presented here are used to generate the maximum irradiance data.

Note: Values shown represent wavelength groups individually pulsed (1ms pulse width, duty cycle 25%) at maximum drive current.

Beam Width Versus Working Distance - White



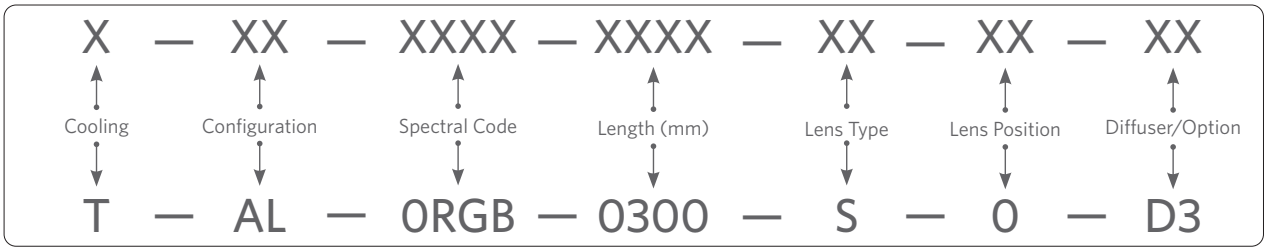
Note: Values presented are for a White COBRA and intended to provide representative information. Actual values will vary depending on wavelength and/or configuration.

Part Numbers

Cooling		Configuration		Standard Configurations		Length (mm)	Lens Type (6)		Lens Postion		Diffuser or Options	
T	Fan	AL	Ethernet control & Strobe enabled	0RGB	Red, Green, Blue	0100	S	Standard	0	No Lens	D0	No Diffuser
		EL	Ethernet control	0023	Red, Green, Blue, Infrared	↓	M	Extra Internal Micro-lens	1	Closest to LEDs	D1	60:10 (Backlight)
				0024	Red, Green, Blue, White	6000			↓		D2	30:1
				0039	Red, Green, Blue, SWIR				9	Furthest from LEDs		

Note: Non-standard lenses are also available on request

To order your COBRA MultiSpec – Select Cooling Option(X) – Select Configuration (XX) – Select Spectral Code – Length (XXX) – Select Length (XXXX) – Select Lens Type & Position (XX) – Select Diffuser Option (XX)



Power Requirements

Cobra Type	Power Rating Per 100mm Module	Cobra 100mm Modules Per Power Supply(4)
TXL	24 VDC ± 40W	5 max

(4) PSU-24V-240W-XX.or comparable 24 V ± 10% standard power supply

COBRA MultiSpec comes with a 2 meter power cable as standard. This cable can be tailored to the specific application requirements. To order the power cable use the following part number C2-CAB-P-S-XXXX where XXXX is the length of the cable in cm.

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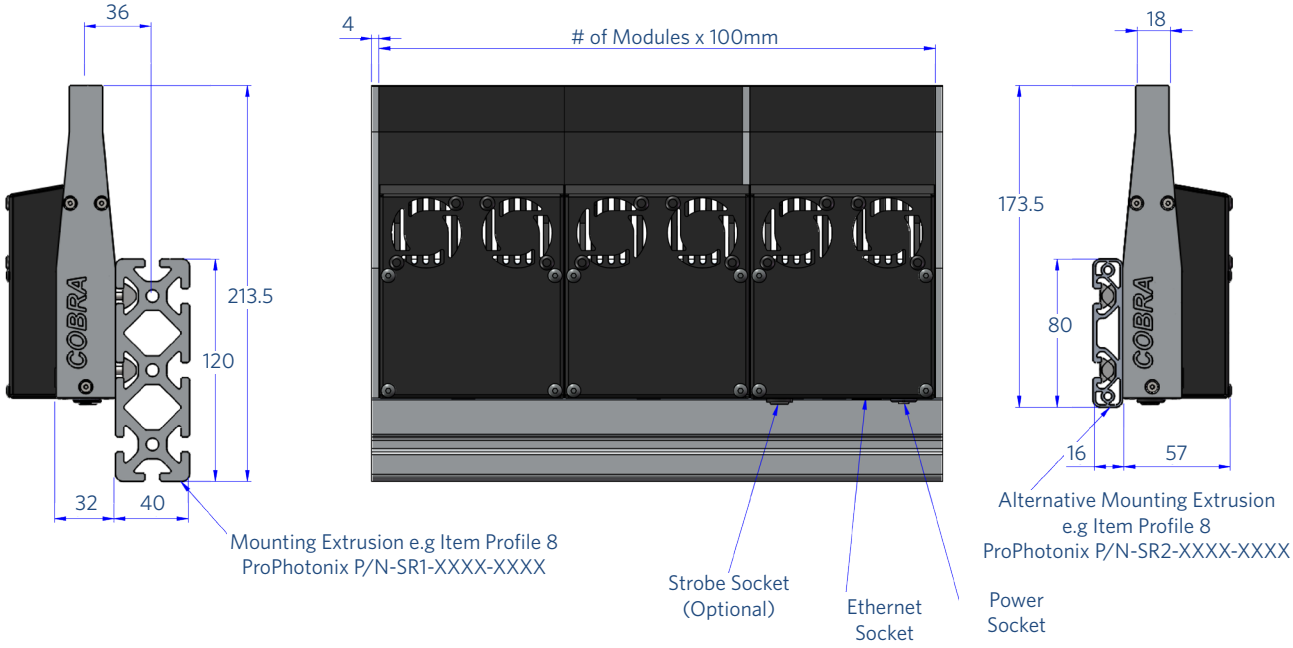
Dimensional Diagram



For all COBRA MultiSpec longer than 100-mm, standard item brand aluminum extrusion Profile 8 is used for rigidly aligning and connecting the 100-mm COBRA MultiSpec modules together. The extrusion is also used for mounting of the COBRA MultiSpec. Two options are available (see dimensional specifications).

(Note: The overall length of the COBRA will include an additional 8mm due to the end caps.)

COBRA MultiSpec comes with a user-friendly GUI for intuitive control.

Note: Other extrusion profile forms and dimensions available on request. Custom back plates also available on request. 100mm units do not require a mounting extrusion.

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US Sales
Tel: +1 603-893-8778
sales@prophotonix.com

EMEA & ROW Sales
Tel: +44-1279-717170
sales@prophotonix.com

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Visit us on the Web: www.prophotonix.com