MIGHTEX

HIGH POWER LIQUID LIGHTGUIDE-COUPLED LED LIGHT SOURCES

Mightex GCS-series high power LED sources are designed for high-efficiency coupling of LED light into a liquid lightguide (LLG) or a fiber optic bundle. Virtually all lightguides with core diameters ranging from 3mm to 8mm can be used with the GCS series light source. Please note that lightguides and adapters are sold separately. GSC series also features a locking electrical connector for secured connections. GCS series are designed as a universal light source for general lab use and OEM applications. All Mightex LED drivers such as the SLC series or other LED drivers and current sources can be used to drive the GCS-series light sources. The one-piece machined aluminum alloy housing features integrated heatsinks and multiple mounting holes.

Multi-chip LED emitters have been added to the product portfolio (Type-B). Some of these 7W to 15W LEDs have total optical power exceeding 1W, quadrupling the power of a single -chip LED (Type-A). Models with higher powers (i.e. Type-B with 7W and higher) feature a cooling fan, and have a different form factor compared to other models. Power supply for the cooling fan is included in the piece of the LED sources. To drive a GCS LED source, one can use any one of the wide range of LED controllers Mightex has to offer.

FEATURES

- High output power
- Broad wavelength selections in VIS, UV and NIR
- Interchangeable liquid lightguides or fiber bundles
- Compact, machined metal housing with integrated heat sink
- Multiple mounting features for lab and OEM applications
- Locking electrical connector

APPLICATIONS

- Microscopy
- Fluorescence
- Sensors
- Medical imaging
- Semiconductor equipment
- Testing instruments
- Medical instruments
- Machine vision

PERFORMANCE SPECIFICATIONS

Type A GCS | *passive cooling*

Part Number[1]	Description	Nominal Wavelength (nm)	I_{op} (mA)	V_{op} (V)	Typical Radiant Flux[2,3] (mW)
GCS-0310-03-xxxxx	DUV 310nm	310	350	5.8	18
GCS-0325-03-xxxxx	DUV 325nm	325	500	5.4	9
GCS-0340-02-xxxxx	DUV 340nm	340	500	4.3	12
GCS-0365-04-xxxxx	UV 365nm	365	1000	3.65	300
GCS-0380-03-xxxxx	UV 380nm, 3W	380	1000	3.2	80
GCS-0385-04-xxxxx	UV 385nm	385	1000	3.65	300
GCS-0390-03-xxxxx	UV 390nm	390	1000	3.1	165
GCS-0395-03-xxxxx	UV 395nm	395	1000	3.1	180
GCS-0400-03-xxxxx	UV 400nm, 3W	400	1000	3.1	175
GCS-0405-03-xxxxx	UV 405nm	405	1000	3	215
GCS-0410-03-xxxxx	410nm	410	1000	3	210

Type A GCS | *continued*

Part Number[1]	Description	Nominal Wavelength (nm)	I_{op} (mA)	V_{op} (V)	Typical Radiant Flux[2,3] (mW)
GCS-0415-03-xxxxx	415nm	415	1000	3	210
GCS-0430-02-xxxxx	430nm	430	500	3.8	130
GCS-0455-04-xxxxx	Royal Blue	455	1000	3.9	165
GCS-0470-04-xxxxx	Blue, 4W	470	1000	3.9	130
GCS-0471-04-xxxxx	Blue	471	350	3	95
GCS-0490-01-xxxxx	490nm	490	350	3.5	85
GCS-0505-04-xxxxx	Cyan	505	1000	3.9	30
GCS-0530-04-xxxxx	Green	530	1000	3.9	60
GCS-0560-02-xxxxx	560nm,broadband	560	700	2.9	120
GCS-0590-03-xxxxx	Amber	590	1000	3.2	35
GCS-0617-03-xxxxx	Red-Orange	617	1000	3	100
GCS-0625-03-xxxxx	Red	625	1000	3	200
GCS-0656-03-xxxxx	Red	656	?	?	?
GCS-0700-01-xxxxx	700nm	700	500	2.1	35
GCS-0720-01-xxxxx	720nm	720	600	2.2	50
GCS-0810-02-xxxxx	810nm	810	800	2.2	80
GCS-0850-02-xxxxx	850nm	850	1000	2.1	125
GCS-0870-01-xxxxx	870nm	870	?	?	?
GCS-0910-02-xxxxx	910nm	910	1000	1.9	80
GCS-0940-02-xxxxx	940nm	940	1000	2.4	125
GCS-0980-01-xxxxx	980nm	980	500	1.4	20
GCS-3000-03-xxxxx	Warm White	3,000K	1000	2.8	80
GCS-4000-04-xxxxx	Warm White	4,000K	1000	3.9	95
GCS-5500-04-xxxxx	Cool White	5,500K	1000	3.9	95
GCS-6500-04-xxxxx	Glacier White	6,500K	1000	3.6	95

[1] xxxxx is the Lightguide Adapter code. Please see Table 1 on page 3.
[2] Measured at the exiting end of a 1 meter long, 3mm-core, 0.59 numerical aperture (NA) liquid lightguide.
[3] Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual output of any given LED may vary. Specifications are intended to be used as a guideline.

Type B GCS | *fan cooling*

Part Number[1]	Description	Nominal Wavelength (nm)	I_{op} (mA)	V_{op} (V)	Typical Radiant Flux[2,3] (mW)
GCS-0365-13-xxxxx	UV 365nm, 13W	365	3500	3.85	950
GCS-0385-07-xxxxx	UV 385nm, 7W	385	500	15	330
GCS-0385-11-xxxxx	UV 385nm, 11W	385	700	15.5	410
GCS-0385-13-xxxxx	UV 385nm, 13W	385	3500	3.75	1180
GCS-0470-15-xxxxx	Blue, 15W	470	1000	15	400
GCS-0505-12-xxxxx	Cyan	505	1000	12.2	200
GCS-0530-15-xxxxx	Green, 15W	530	1000	15	180

Type B GCS | *continued*

Part Number[1]	Description	Nominal Wavelength (nm)	I_{op} (mA)	V_{op} (V)	Typical Radiant Flux[2,3] (mW)
GCS-0617-10-xxxxx	Red-Orange, 10W	617	1000	10.8	300
GCS-0625-07-xxxxx	Red, 7W	625	700	9.6	400
GCS-3000-12-xxxxx	Warm White, 12W	3,000K	1000	12	240
GCS-5500-12-xxxxx	Cool White, 12W	5,500K	1000	12	300
GCS-6500-15-xxxxx	Glacier White, 15W	6,500K	1000	15	300

[1] xxxxx is the Lightguide Adapter code. Please see Table 1 on page 3.
[2] Measured at the exiting end of a 1 meter long, 3mm-core, 0.59 numerical aperture (NA) liquid lightguide.
[3] Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual output of any given LED may vary. Specifications are intended to be used as a guideline.
* When ordering an LED controller for a Type-B LED, please make sure to upgrade the AC/DC power adapter from the standard 12V to 24V.

Type H GCS | *super high-power, fan cooling*

Part Number[1]	Description	Nominal Wavelength (nm)	I_{op} (A)	V_{op} (V)	Typical Radiant Flux[2,3] (mW)
GCS-0365-48-xxxxx	UV 365nm, 50W	365	12	3.9	1300
GCS-0405-50-xxxxx	UV 405nm, 50W	405	13	3.8	1500
GCS-0470-50-xxxxx	Blue, 50W	470	13	3.8	2000
GCS-0525-60-xxxxx	Green, 60W	525	13	4.6	800
GCS-0560-68-xxxxx	560 Broadband	560	18	3.8	1700
GCS-0625-38-xxxxx	Red, 40W	625	13	2.9	700
GCS-0730-77-xxxxx	NIR, 80W	730	18	5.9	2200
GCS-6500-33-xxxxx	Glacier White, 30W	6,500K	9	3.7	1200
GCS-6500-65-xxxxx	Glacier White, 65W	6,500K	18	3.7	2200

[1] xxxxx is the Lightguide Adapter code. Please see Table 1 on page 3.
[2] Maximum CW output achievable with a BLS-13000-1E or BLS-18000-1 BLS-Series control module. Measured at exiting end of a 1 meter long, 3mm-core 0.59 numerical aperture (NA) liquid light guide.
[3] Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual output of any given LED may vary. Specifications are intended to be used as a guideline.
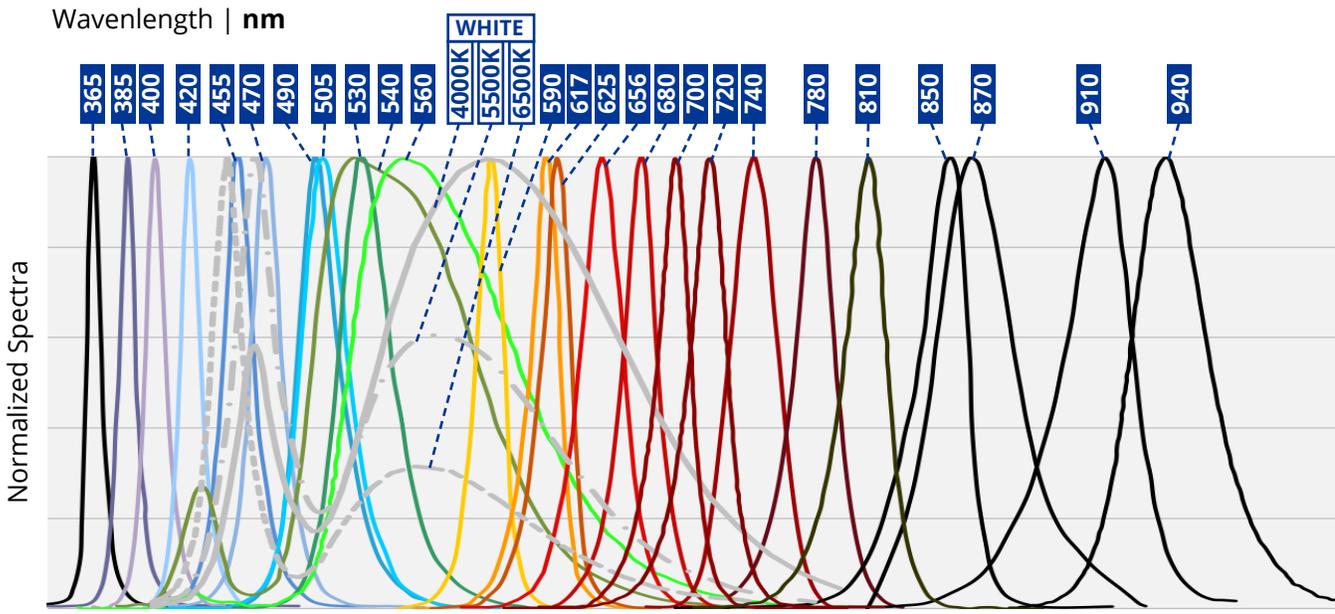
Table 1 | Liquid Lightguide Adapters (for type-A GCS LEDs only)

Adapter Code	Ferrule Diameter (mm)	Ferrule Length (mm)
A0510	5	≥10
A0610	6	≥10
A0710	7	≥10
A0810	8	≥10
A0815	8	≥15

LED SPECTRA

MIGHTEX LED WAVELENGTH PORTFOLIO

Wavenlength | **nm**

WHITE

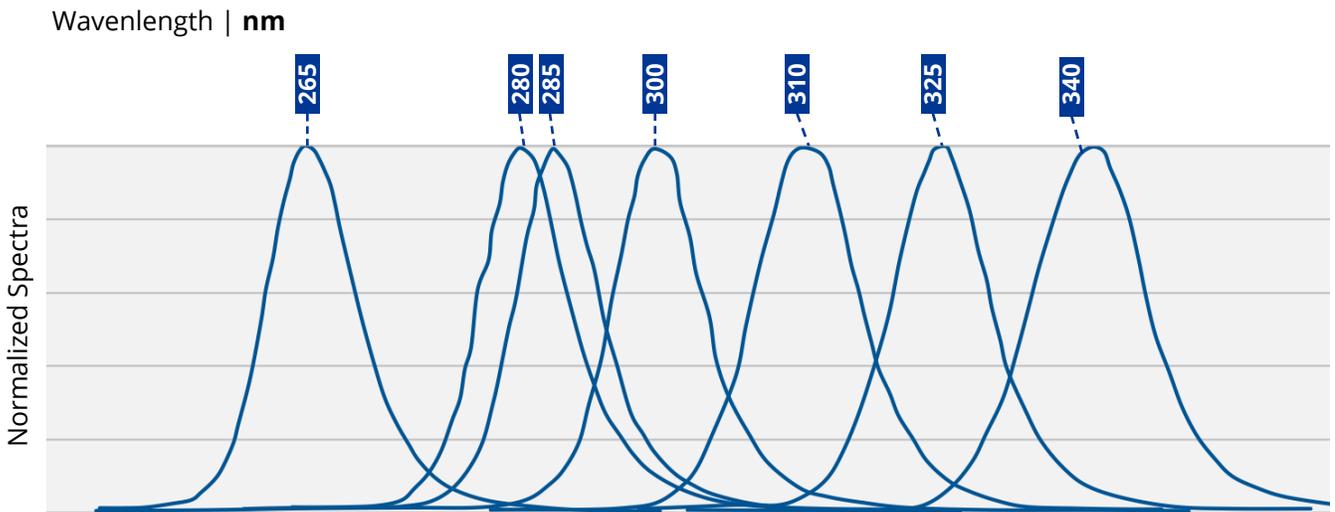365 385 400 420 455 470 490 505 530 540 560 4000K 5500K 6500K 590 617 625 656 680 700 720 740 780 810 850 870 910 940

Normalized Spectra

New LED wavelengths are continually added to the portfolio. Please visit **www.mightexsystems.com** for updated list.

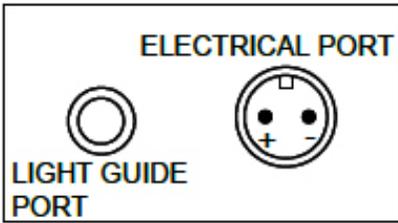### MIGHTEX DUV LED WAVELENGTH PORTFOLIO

Wavenlength | **nm**

265 280 285 300 310 325 340

Normalized Spectra

New LED wavelengths are continually added to the portfolio. Please visit **www.mightexsystems.com** for updated list.
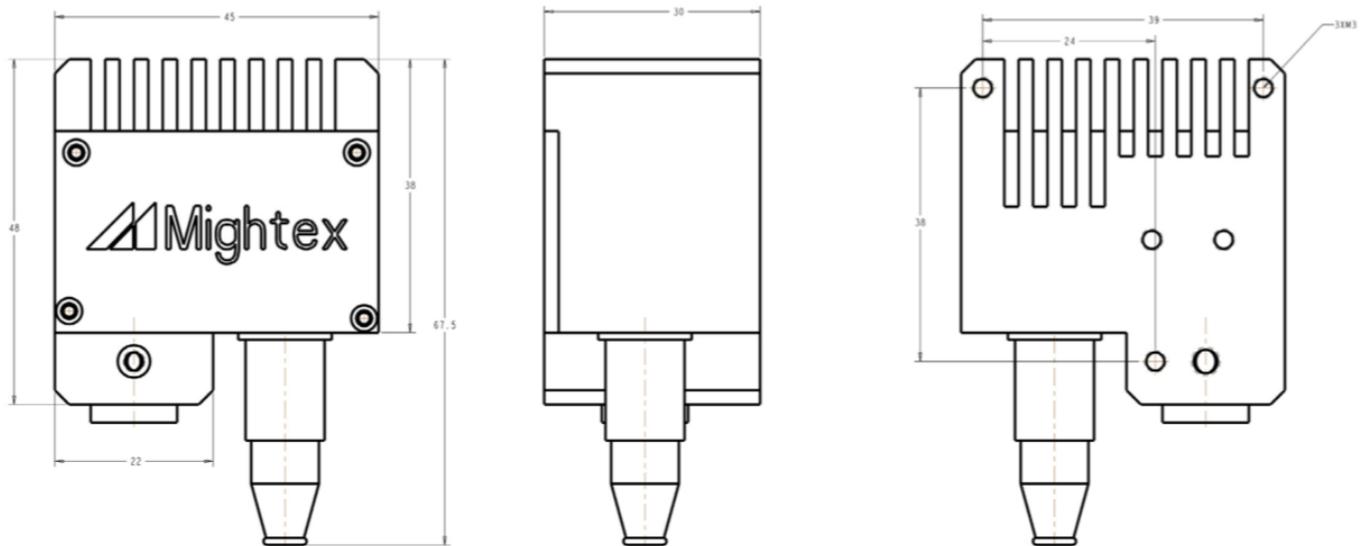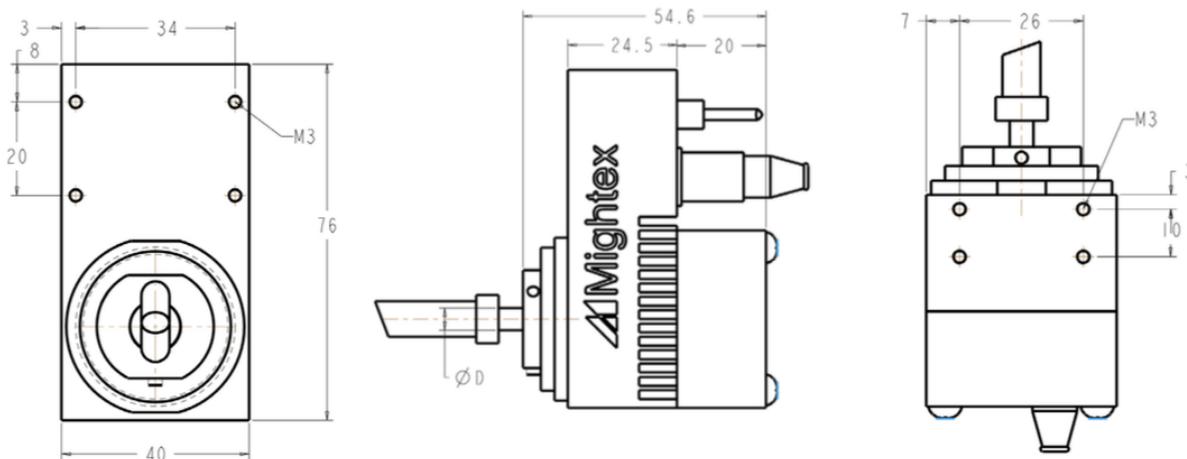
ELECTRICAL PIN LAYOUT
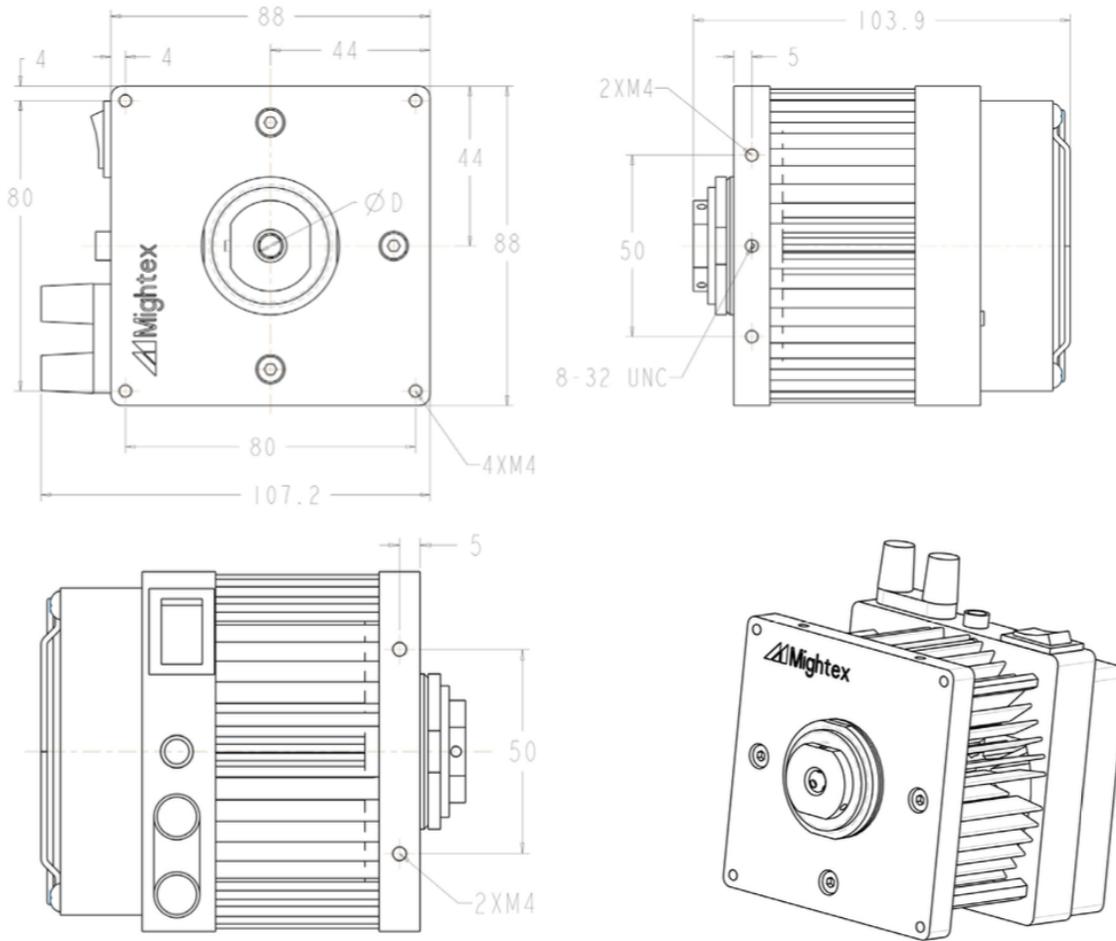

INSTALLATION DRAWINGS

GCS Series Lightguide Coupled LED, Type-A

GCS Series Lightguide Coupled LED, Type-B

GCS Series Lightguide Coupled LED, Type-H

PART NUMBER AND ORDERING INFORMATION

GCS - ☐☐☐☐ - ☐☐ - XXXXX

Wavelength   Electrical   Light Guide
                      Power   Adaptor

For example, GCS-0470-15-A0510 is a 15W 470nm light guide coupled LED source with a standard adapter for Mightex 3mm liquid light guide (with 5mm ferrule diameter).

With a world-class OEM design team, Mightex offers a broad range of customized solutions in order to meet individual customer's unique requirements. Please call **1-925-218 1885** or email **sales@mightex.com** for details.

MIGHTEX

ORDER NOW

Our primary goal is to help you find the optimal solution for your application. We have a dedicated technical support and sales team committed to providing guidance on our LED illumination and other Mightex products.

Please visit **www.mightexsystems.com**
for more information!

CONTACT US

US OFFICE
1241 Quarry Lane, Suite 105
Pleasanton, CA 94566
USA
TEL: 1-925-218-1885

CANADA OFFICE
111 Railside Road, Suite 201
Toronto, ON M3A 1B2
Canada
TEL: 1-416-840-4991