

SHAPING LIGHT.

HELPING ENGINEERS AND SCIENTISTS IN
ADVANCING HOW THE WORLD COMMUNICATES,
SENSES AND CONNECTS



TUNABLE LASER PRODUCT LINE DATA SHEET

Ordering Information:



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Guilford, CT 06437
Ph: 203-401-8093

Email orders to: sales@xsoptix.com
Fax orders to: 800-878-7282

THE COBRITE ECOSYSTEM – TUNABLE LASER SOURCES FOR CUTTING EDGE RESEARCH

Introducing our CoBrite tunable narrow linewidth laser ecosystem. Designed with simplicity and versatility in mind, CoBrite offers multiple chassis options and laser variants, making it an essential tool for researchers in the lab and on the production floor. With tunability options in the C-band, L-band, or C+L band, from a single source or in configurations of more than 100 ports, there's a CoBrite configuration to suit virtually every application. We keep expanding the CoBrite ecosystem to address new applications and market requirements when they arise.



COBRITE DX1



COBRITE DX2



COBRITE DX



COBRITE MX

KEY FEATURES

- Full tunability across entire specified range
- Extended C and L – Band, 1525nm to 1625nm
- Up to 17.8 dBm Output power
- Laser Linewidth down to < 25kHz
- Polarization Maintaining Output
- Integrated Web Server for browser-based control
- 19" Rack mountable

TYPICAL APPLICATIONS

- Fiber-optic communications
- Coherent optical transceiver development
- Local Oscillator
- Silicon Photonics
- Versatile Light sources light sources for optics and physics labs

THIS IS WHAT DISTINGUISHES OUR PRODUCTS



COBRITE IS FLEXIBLE

Chose from hundreds of variants and configure the right product for your application.



SIMPLE, INTUITIVE USABILITY

Use the installation-free WebGUI to control your CoBrite right out of the Internet Browser.



COBRITE IS SCALABLE

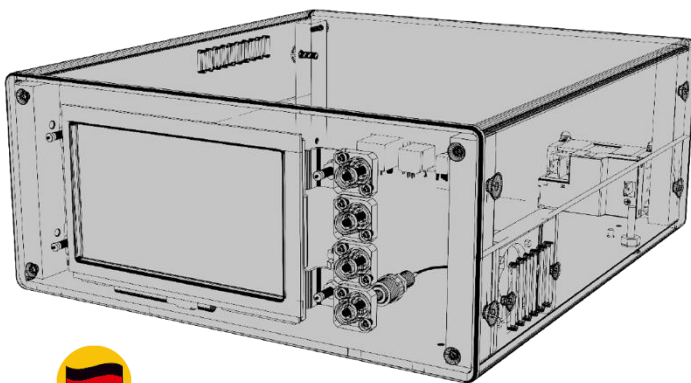
Chose your chassis from our CoBrite platform to support your application from 1 to 48 Laser ports in a single system.



ANY LASER IN ANY CHASSIS

This modular approach allows to fully customize your CoBrite by integrating any combination and number of lasers into one chassis

DESIGNED & MADE IN GERMANY



DESIGNED & MADE
IN GERMANY

German craftsmanship is renowned worldwide for its meticulous attention to detail and use of high-quality materials.

It signifies a commitment to exceptional quality and precision engineering.

At ID Photonics, our entire operations are based in Germany, ensuring top-notch craftsmanship. We handle everything from manufacturing and hardware design to software and circuit design. This comprehensive approach guarantees products that are reliable, durable, and innovative. By choosing ID Photonics, you invest in engineering excellence and timeless design, all crafted with meticulous attention to detail in Germany.

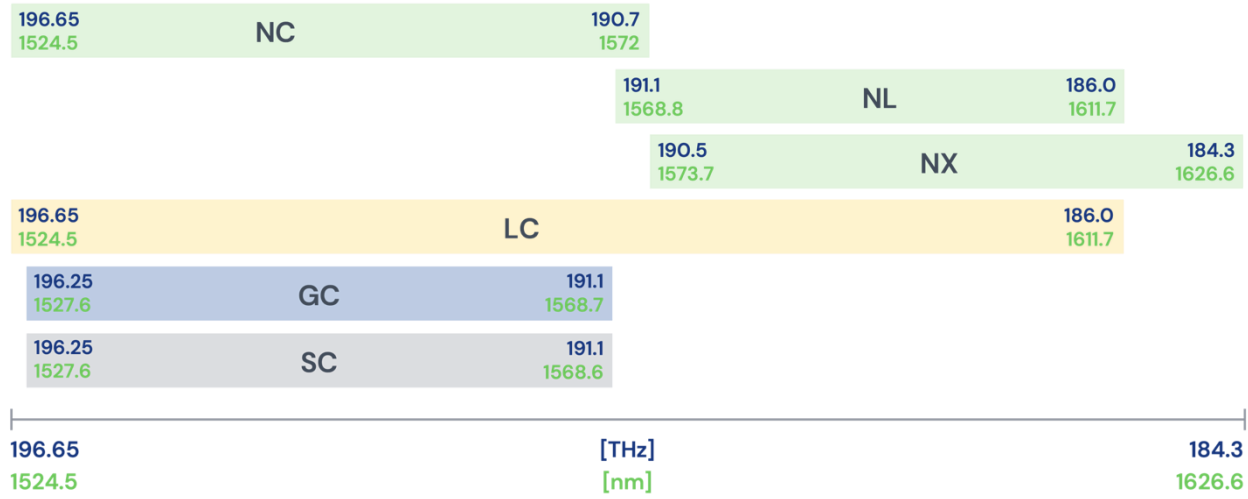
TUNABLE LASER SPECIFICATION

OPTICAL PARAMETER	LASER TYPE N	LASER TYPE SC	LASER TYPE GC	UNIT
FREQUENCY RANGE: C – BAND L – BAND X – BAND C + L – BAND (LC)	190.70 – 196.65 (1524.5 - 1572nm)	191.12 – 196.25 (1527.6 – 1568.6nm)	191.1 – 196.25 (1527.61 – 1568.77nm)	THz
	186.00 – 191.1 (1568.8 – 1611.7nm)	C – Band only	C – Band only	
	184.30 - 190.5 (1573.7 - 1626.65nm)			
	186.00 - 196.65 (1524.5 - 1611.7nm)			
CHANNEL SPACING	Continuous	Continuous	Continuous	THz
FREQUENCY FINE TUNE RESOLUTION	1	10	1	MHz
FREQUENCY FINE TUNE RANGE	+/- 6	+/- 10	+/- 6	GHz
OPTICAL POWER TUNING RANGE (FOR ANY FREQUENCY) C - BAND L - BAND X - BAND C + L BAND	10.0 – 16.0	8.8 – 17.8 (17.0 dBm EOL)	9.5 – 15.5	dBm
	9.0 – 14.5	-	-	
	13 - 16			
	6.8 – 10.5			
SPECTRAL LINE WIDTH; FWHM INSTANTANEOUS, 3.5US	< 100 25 typical	80 typical < 100 (Pout < 16dBm) < 150	< 100 25 typical	kHz
FREQUENCY ACCURACY OVER LIFETIME	+/- 2.5 0.3	+/- 1.5 0.3	+/- 2.5 0.3	GHz
SMSR; SIDE MODE SUPPRESSION RATIO; MEASURED WITH 0.1NM RBW	> 40 55 typical	> 40	> 40 55 typical	dB
AVERAGE RIN	-145 (10 MHz to 22 GHz, 11dBm)	-140 (100kHz – 20MHz) -150 (20MHz – 1GHz)	-145 (10 MHz to 22 GHz, 11dBm)	dB/Hz
POWER ACCURACY OVER TUNING RANGE	+/- 0.5	+/- 0.5	+/- 0.5	dB
TUNING SPEED (MAX/TYPICAL)	15 / 10	2 / 1.0	15 / 10	s
OUTPUT CONNECTOR	FC/APC, FC/PC or SC/PC			
OUTPUT POWER ACCURACY OVER LIFETIME OUTPUT POWER STABILITY OVER 1 HOUR OVER 24 HOURS	-/+1			dB
	+/- 0.01 (typ., at stable temperature) +/- 0.03 (typ., at stable temperature)			
OUTPUT POWER SETTING RESOLUTION	0.1			dB
OPTICAL FIBER	Polarization-maintaining PANDA type Fiber, PER > 18dB, 25typ.			

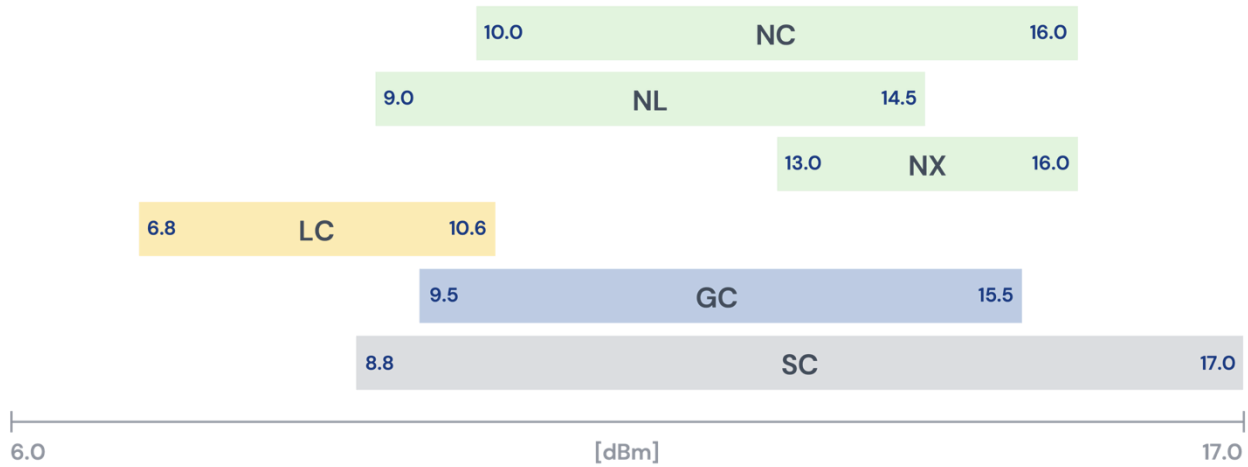


COMPARISON OF LASER PARAMETER

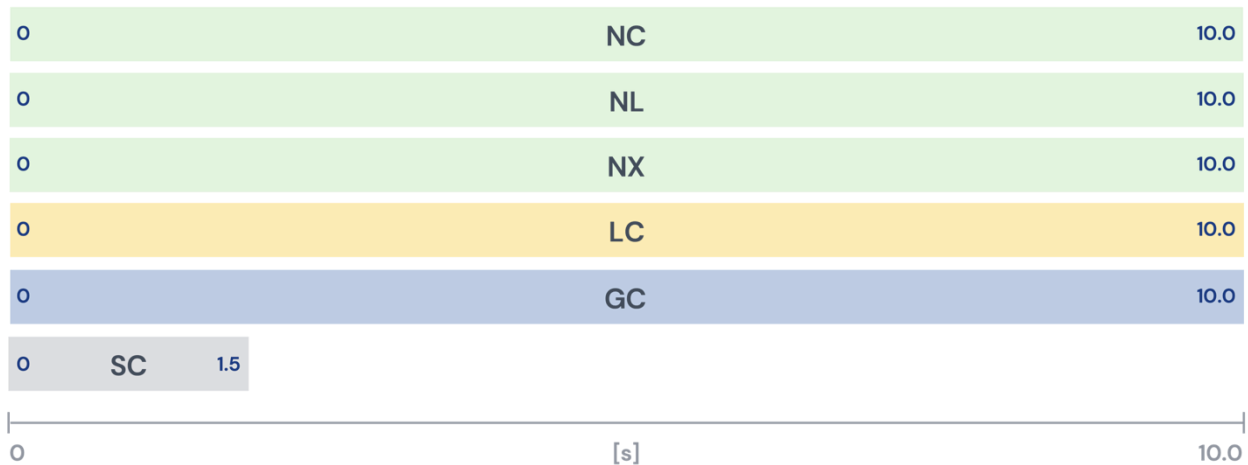
FREQUENCY/WAVELENGTH



POWER TUNING RANGE

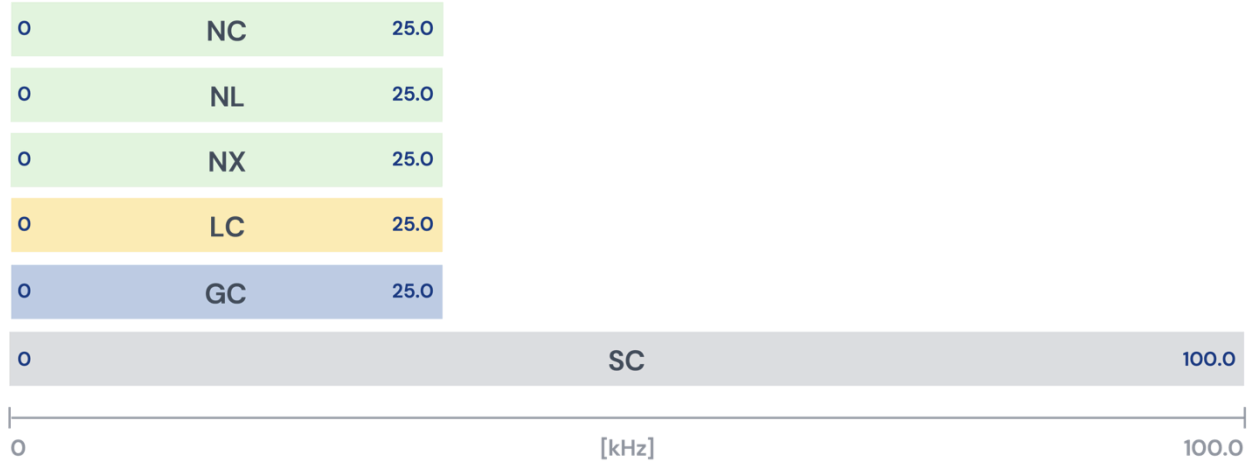


TYPICAL TUNING TIME

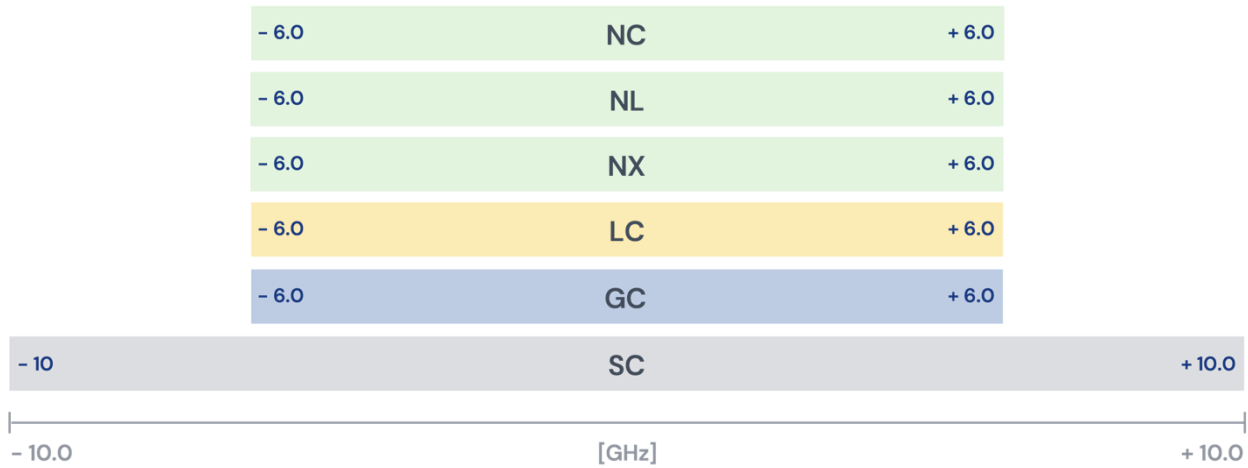


COMPARISON OF LASER PARAMETER

TYPICAL LASER LINE WIDTH



FINE TUNING RANGE



COBRITE LASER TUNING METHODS

1

COARSE TUNING

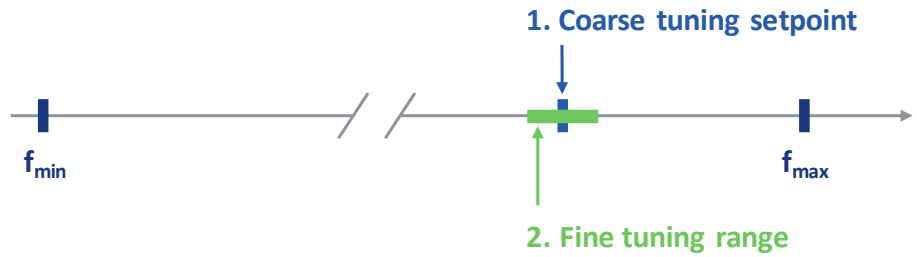
Access the full specified tuning range and tune to any desired frequency.

2

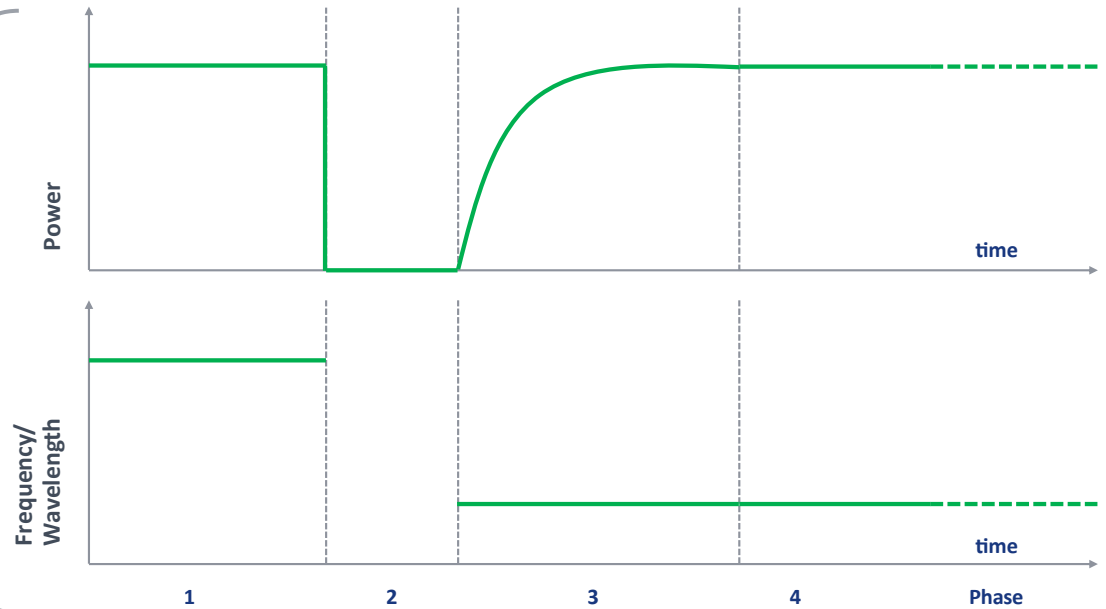
FINE TUNING

Enables precise frequency adjustment by offsetting the coarse tuning set point within a small range.

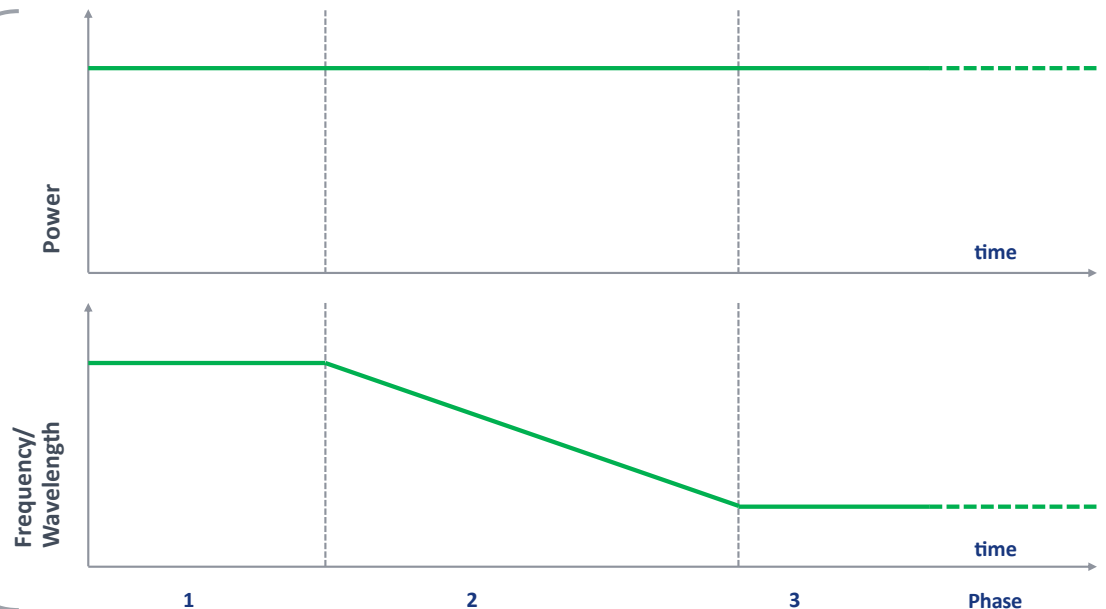
TUNING MODES



1. COARSE TUNING

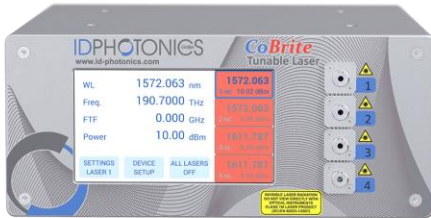


2. FINE TUNING



SELECT THE RIGHT PRODUCT FOR YOUR APPLICATION:

1



COBRITE DX

The CoBrite DX Series offers a versatile, full-feature stand-alone solution, with a touchscreen user interface for intuitive operation in a chassis for up to 4 laser sources.

2



COBRITE DX2

The CoBrite DX2 Series offers a compact, full-feature chassis for 1 or 2 laser sources and an installation-free web GUI.

3



COBRITE DX1

The CoBrite DX1 Series, with its single laser source housed in a benchtop chassis, is the simplest and most cost-efficient solution within the CoBrite family.





4



COBRITE MX

The CoBrite MX series is a 19-inch compatible chassis offering the highest laser source density on the market, with up to 48 field installable laser ports. All laser ports are easily controlled from a single controller.

CHASSIS FEATURE COMPARISON

LASER TYPE	DX1	DX2	DX	MX
CHASSIS				
NUMBER OF LASER PORTS N, SC, GC TYPE	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 1 or 2	<input checked="" type="checkbox"/> 1, 2 or 4	<input checked="" type="checkbox"/> 4 per Card
NUMBER OF LASER PORTS N TYPE C+L BAND	<input type="checkbox"/>	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 1 or 2	<input checked="" type="checkbox"/> 2 per Card
TUNING TRIGGER PORTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USB PORT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
LOCAL LASER ON/OFF BUTTON	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ETHERNET PORT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SCPI REMOTE CONTROL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
INSTALLATION-FREE BROWSER-BASED GUI	<input type="checkbox"/> GUI S/W provided	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MULTIPLE PARALLEL USER CONNECTIONS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
TOUCH PANEL DISPLAY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
INSTALLATION OF LASER PORTS BY USER	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AC POWER SUPPLY PROVIDED	<input checked="" type="checkbox"/> External	<input checked="" type="checkbox"/> External	<input checked="" type="checkbox"/> Integrated	<input checked="" type="checkbox"/> Integrated
19" RACK MOUNTABLE	<input type="checkbox"/>	<input checked="" type="checkbox"/> 1U, half width	<input checked="" type="checkbox"/> 2U, half width	<input checked="" type="checkbox"/> 3U
LINK TO MANUAL	DOWNLOAD		DOWNLOAD	

SIMPLE, INTUITIVE CONTROL OF YOUR LASER

Our laser system comes with an intuitive and easy-to-use graphical user interface (GUI) that requires no installation. It's designed to provide a seamless experience, allowing you to control and monitor the laser with ease.

- **Simplicity at Its Best:** Say goodbye to complex installations and hello to instant control. Our laser system features an embedded graphical user interface (GUI) that requires no additional software. Just connect, and you're ready to operate.
- **Intuitive Design:** Navigate with ease through our clean and modern dashboard. Monitor real-time performance, adjust settings, and ensure safety with just a few clicks.
- **Plug-and-Play Convenience:** Start using your laser system right out of the box. Connect via USB or Wi-Fi, open your web browser, and take control through the built-in interface.

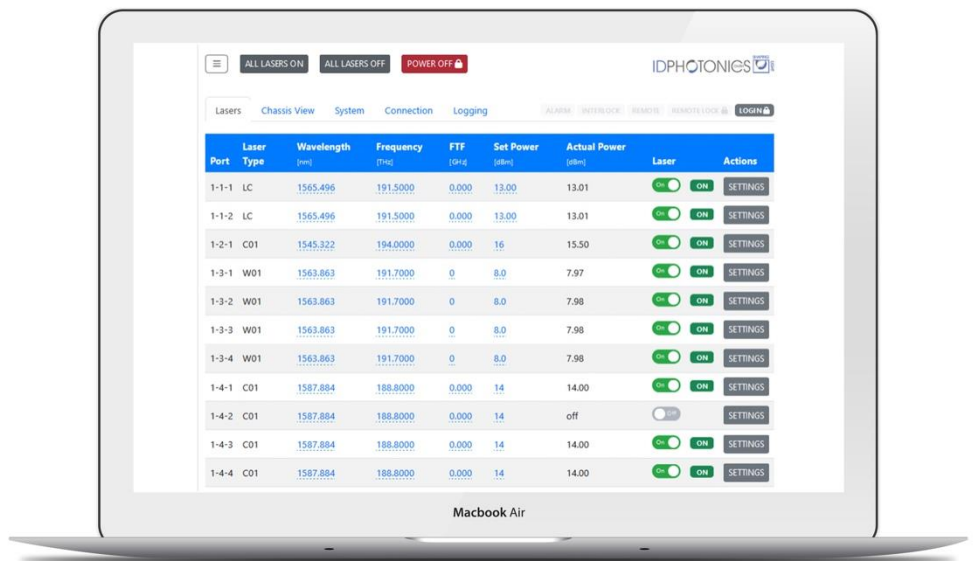


1

COBRITE MX - WEB GUI ON TABLET

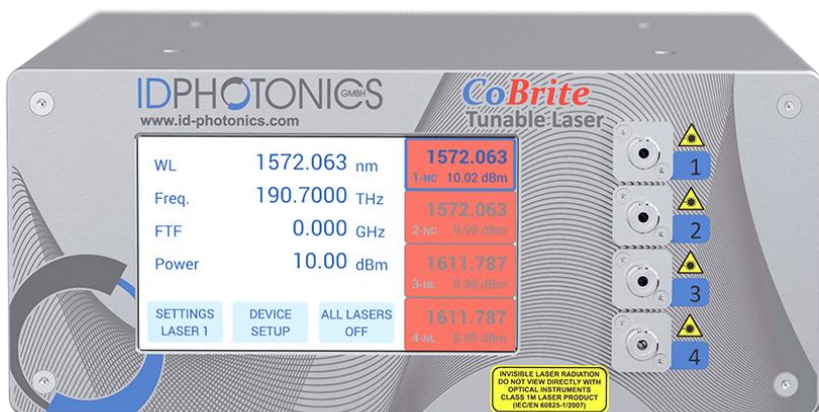
2

COBRITE MX - WEB GUI ON DESKTOP



3

COBRITE DX - TOUCH GUI ON PRODUCT



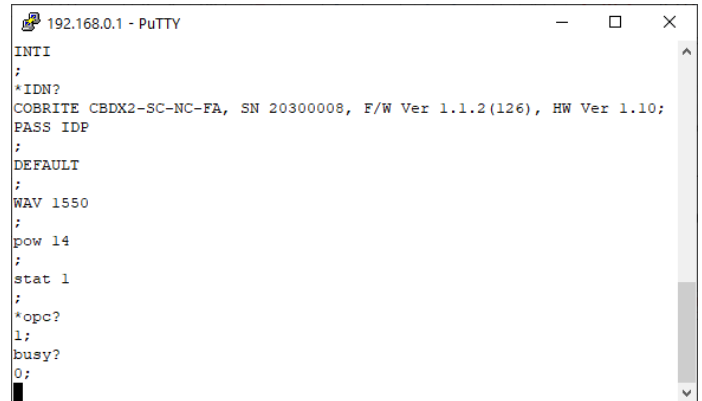
COBRITE AUTOMATION FEATURES

COBRITE LASERS PROVIDE EXTENSIVE INTERFACES TO AUTOMATE YOUR SETUPS

CoBrite supports SCPI (Standard Commands for Programmable Instruments) based programming. It is based on standardized, ASCII based commands that are easy to understand and to implement.

For example, "WAV?" queries the current wavelength while WAV 1550 sets the wavelength of a laser port.

Its intuitive syntax and clear structure mean you can quickly learn to control and automate your devices without extensive programming knowledge.



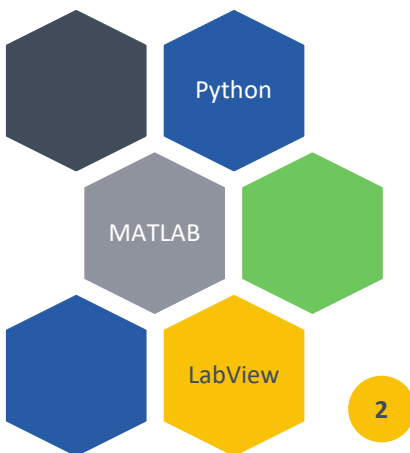
```

192.168.0.1 - PuTTY
INTI
;
*IDN?
COBRITE CBDX2-SC-NC-FA, SN 20300008, F/W Ver 1.1.2(126), HW Ver 1.10;
PASS IDP
;
DEFAULT
;
WAV 1550
;
pow 14
;
stat 1
;
*opc?
1;
busy?
0;

```

1

SCPI COMMANDS



API REFERENCES PROVIDED

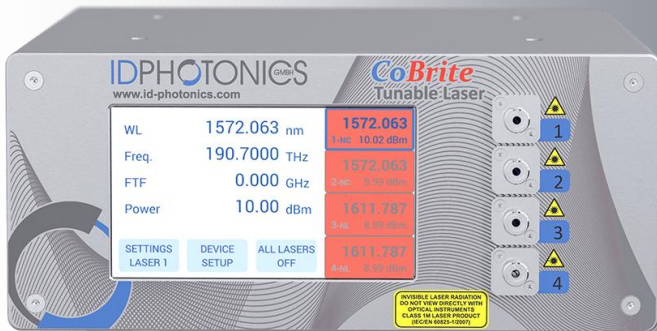
The CoBrite software package provides comprehensive reference implementations for popular automation languages such as Python, MATLAB, and LabView. These implementations are designed to help you quickly and efficiently integrate SCPI commands into your programming environment. By offering these ready-to-use examples, CoBrite ensures that you can start automating your tasks with minimal setup time, allowing you to focus on your core applications.

You can effortlessly issue SCPI commands using the HTTP protocol, making the process as simple as entering a URL in the address bar of a web browser. This method allows for straightforward and intuitive interaction with your instruments, eliminating the need for complex software installations or specialized interfaces. By leveraging the familiar and widely-used HTTP protocol, you can quickly send commands and receive responses, streamlining the process of instrument control and automation. This ease of use ensures that even those with minimal technical expertise can effectively manage and operate their devices, enhancing overall productivity and efficiency.

Example: <http://cobrite.local/scpi/wav?> Queries the wavelength setting of a CoBrite Laser port (not applicable to DX1)

3

SCPI QUERIES VIA HTTP



TUNABLE LASER SOURCES

COBRITE DX

CoBrite is a versatile tunable Laser light instrument that allows standalone operation by an intuitive local touch display. The chassis can be equipped with 1, 2 or 4 tunable lasers and 5 laser variants to meet your specific needs. Mixing of Laser types is possible. Remote operation via an integrated web server allows control using any browser-based device such as smartphones eliminating the need for complex software installations.

An integrated AC power supply makes this solution ultra portable while it is compatible with the 19" rackmount standard utilizing a 2U slot. Automated remote control is achieved via USB or Ethernet by SCPI command control.

Optical connectors are tool-free user removable allowing instant access for fiber cleaning.



Weight

3 kg . 6.6 lbs



Size of device

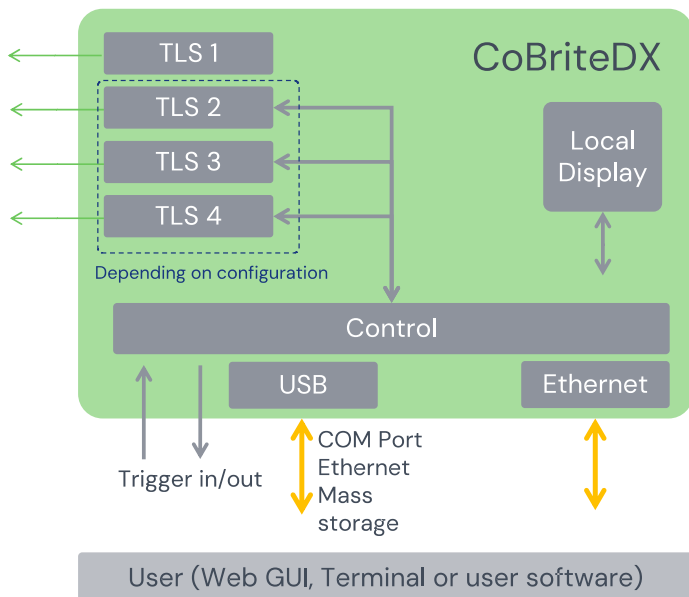
89 x 206 x 235mm
3.51" x 8.12" x 9.06"
2U - 19" rackmount standard, half width



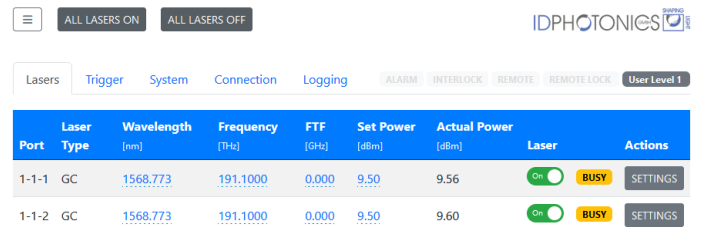
Operating Temperature

0 to 40°C

BLOCK DIAGRAM



WEB GUI



TOUCH GUI



Invisible Laser Radiation
Class 1M Laser Product
EN 60825-1: IEC 60825-1



TUNABLE LASER SOURCES

COBRITE DX2

The CoBrite DX2 can host either one or two CoBrite tunable laser light sources, making it a versatile solution for various applications like coherent transmitters and local oscillators. It features a plug-and-play setup, an installation-free, web-based graphical user interface (GUI) and compact size. With a wide range of laser options available, from budget-friendly multipurpose models to high-end narrow linewidth sources, there is a CoBrite DX2 tailored to meet your requirements. CoBrite DX2 is compatible to the 19" rackmount standard utilizing and utilizes a half width 1U slot.



Weight

3 kg . 6.6 lbs



Size of device

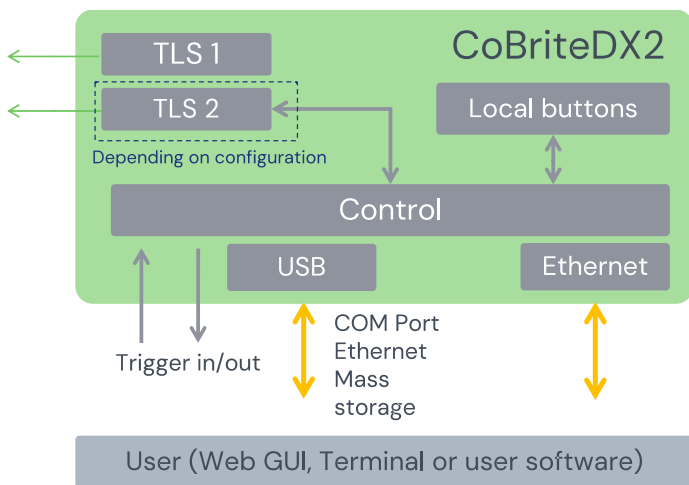
89 x 206 x 235mm
3.51" x 8.12" x 9.06"
1U - 19" rackmount standard, Half width



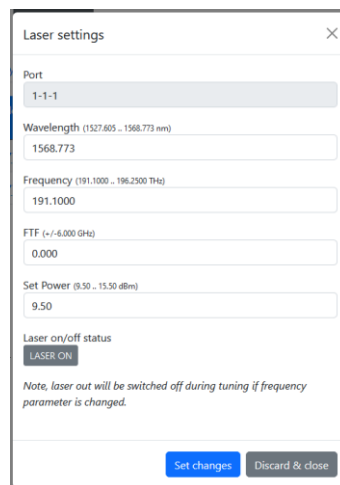
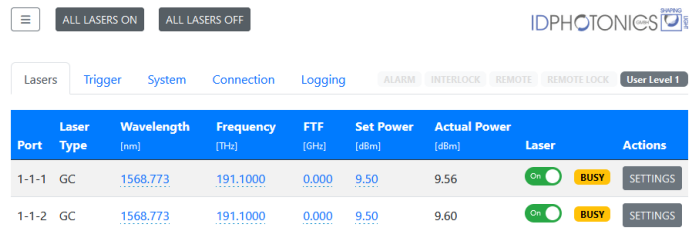
Operating Temperature

0 to 40°C

BLOCK DIAGRAM



WEB GUI



Invisible Laser Radiation
Class 1M Laser Product
EN 60825-1: IEC 60825-1



TUNABLE LASER SOURCES COBRITE DX1

The CoBrite DX1 hosts one CoBrite tunable laser source, suitable for various applications like coherent transmitters or local oscillators. It features simple setup and compactness, while being the most cost-effective CoBrite option. With a selection of laser variants available, spanning from budget-friendly multipurpose models to high-end narrow linewidth sources, there is a CoBrite DX1 tailored to suit your needs.



Weight

3 kg . 6.6 lbs



Size of device

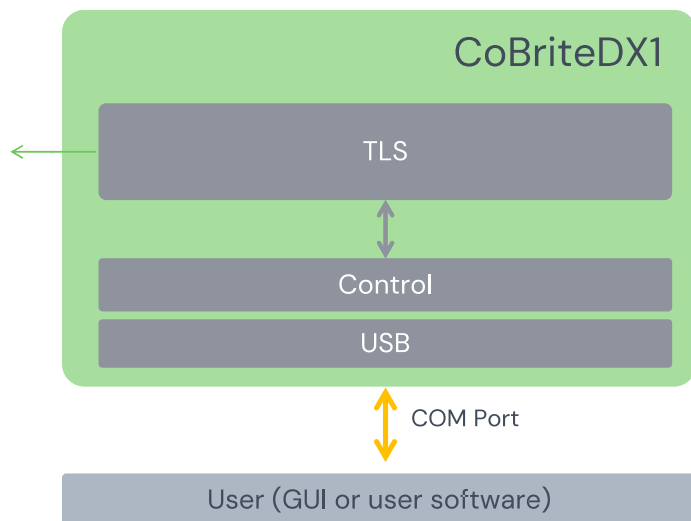
89 x 206 x 235mm
3.51" x 8.12" x 9.06"



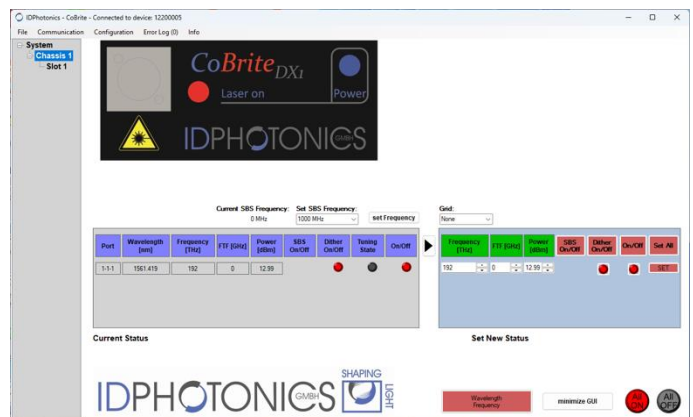
Operating Temperature

0 to 40°C

BLOCK DIAGRAM



WEB GUI



Invisible Laser Radiation
Class 1M Laser Product
EN 60825-1: IEC 60825-1



TUNABLE LASER SOURCES

COBRITE MX

The CoBrite MX series is a 19-inch mainframe-based system that uses slide-in cards, each housing up to 4 CoBrite lasers. This setup offers flexibility to the user to adjust to any required channel count in the field. Scalable in the field, from 2 lasers to up to 48 lasers within a single platform, the CoBrite MX provides a solution for various needs – from low channel count testing to full DWDM channel grid emulation applications. Two chassis variants available with 24 or 48 laser port capacity.



Weight

- 4 kg
- 8.8 lbs
- 8kg
- 17.6 lbs



Size of device

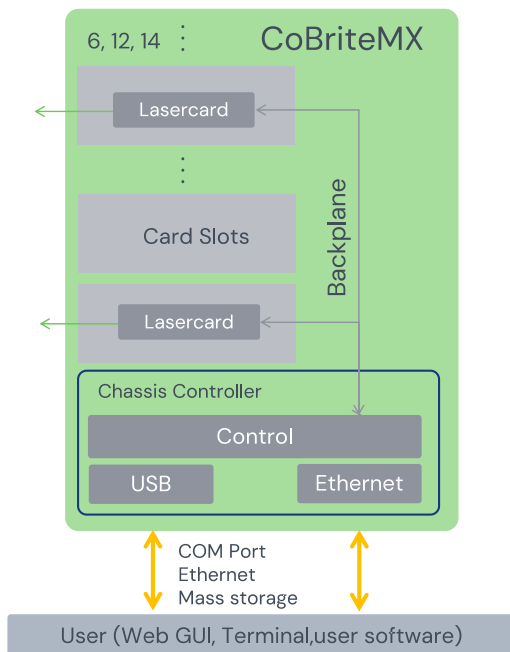
- 345 x 152 x 380mm
- 13 x 6 x 15 inch
- 482 x 152 x 540mm
- 19 x 6 x 21 inch
- 3U - 19" rackmount standard



Operating Temperature

0 to 40°C

BLOCK DIAGRAM



CHASSIS

CBMA24

This mainframe is designed for low to medium channel counts and hosts up to 6 cards that allows to for up to 24 lasers in a compact chassis.

CBMA48

Is the core mainframe for demanding applications as it hosts up to 12 cards with 48 lasers. For applications requiring more than 48 laser ports, extensions via multiple CBMA48 chassis is possible.

WEB GUI

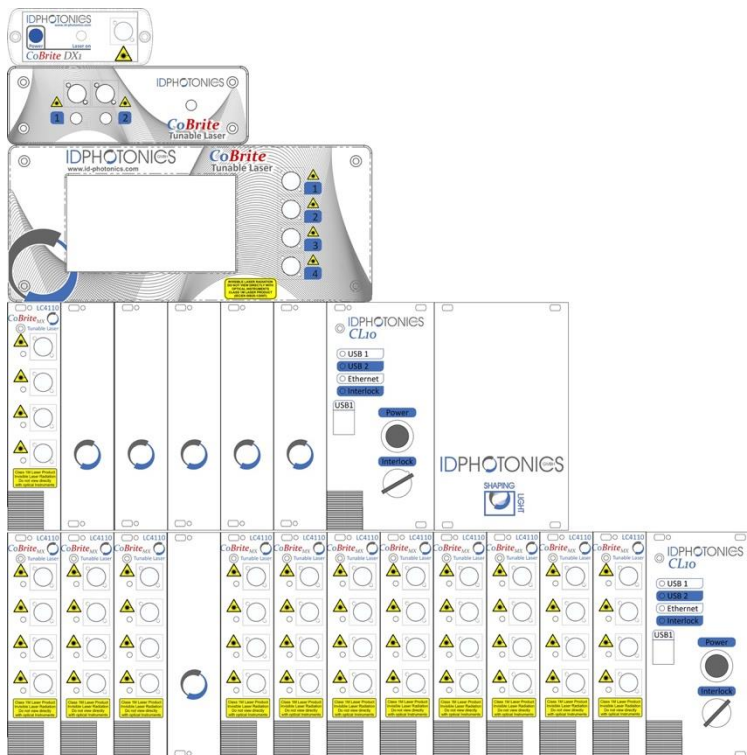


Invisible Laser Radiation
Class 1M Laser Product
EN 60825-1: IEC 60825-1

DEVICE PARAMETER

DEVICE PARAMETER	DX1	DX2	DX	MX (CBMA24)	MX (CBMA48)
OPERATING TEMPERATURE	0 to 40°C non-condensing				
STORAGE TEMPERATURE	-20°C to 60°C non-condensing				
SIZE OF DEVICE (H X W X D) 19" RACKMOUNT	32 x 82 x 150 mm (1.3 x 3 x 6 inch) -	45 x 136 x 179mm (1.77 x 5.35 x 7.04 inch) 1U, half width	89 x 206 x 235mm (3.51 x 8.12 x 9.06 inch) 2U, half width	345 x 152 x 380mm, (13 x 6 x 15 inch) 3U	482 x 152 x 540mm, (19 x 6 x 21 inch) 3U
WEIGHT	0.5 kg (1.1 lbs)	1.3 kg (2.9 lbs)	3 kg (6.6 lbs)	4 kg (8.8 lbs)	8kg (17.6 lbs)
POWER SUPPLY	External, included 100 - 240 VAC, 500mA, 50/60Hz, 12VDC, 1.5A input at unit			100-240 VAC, 50/60Hz, 10A, 150W (CBMA24) – 300W (CBMA48)	
CARD CAPACITY	-	-	-	6 slide-in cards	12 slide-in cards
LASER PORT CAPACITY	1	1, 2	1, 2, 4	2 to 24	2 to 48
PORTS	USB	USB, Ethernet		1x Ethernet back, 1x Ethernet front, 1x USB front	
CONTROL	Installer GUI provided	Installation free, browser based pictographic GUI, SCPI style remote control commands			
AUTOMATION	SCPI style remote control commands				
LASER SAFETY INTERLOCK	Interlock located at rear, Software based interlock			Key located in front, Software based interlock	

COMPARISON OF DIMENSIONS



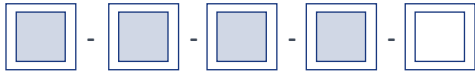
CONFIGURE COBRITE DX

NUMBER OF LASERTYPE PORTS

1, 2 or 4

ORDER CODE KEY

CBDX-

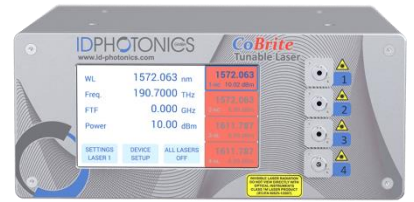


LASERTYPE PORTS

- NC : Narrow Linewidth, C-Band, extended Band
- NL : Narrow Linewidth, L-Band
- NX : Narrow Linewidth, extended L-Band
- GC : Narrow Linewidth, C-Band, standard-Band
- SC : Standard Linewidth, C-Band
- LC : Narrow Linewidth C+L-Band, max. 2 ports per card
- NN : Not Equipped

CONNECTOR TYPE

- FA: FC/APC
- FP: FC/PC
- SP: SP/PC



19" RACKMOUNT ACCESSORY KIT

CBDX-ACC-RM-



NUMBER OF CHASSIS

- 1: 1 CHASSIS @ 2U
- 2: 2 CHASSIS @ 2U

CONFIGURE COBRITE DX2

NUMBER OF LASERTYPE PORTS

1 or 2

ORDER CODE KEY

CBDX2-



LASERTYPE PORTS

- NC : Narrow Linewidth, C-Band, extended Band
- NL : Narrow Linewidth, L-Band
- NX : Narrow Linewidth, extended L-Band
- GC : Narrow Linewidth, C-Band, standard-Band
- SC : Standard Linewidth, C-Band
- LC : Narrow Linewidth C+L-Band, max. 2 ports per card
- NN : Not Equipped

CONNECTOR TYPE

- FA: FC/APC
- FP: FC/PC
- SP: SP/PC



19" RACKMOUNT ACCESSORY KIT

CBDX2-ACC-RM-



NUMBER OF CHASSIS

- 1: 1 CHASSIS @ 1U
- 2: 2 CHASSIS @ 1U

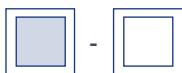
CONFIGURE COBRITE DX1

NUMBER OF LASERTYPE PORTS

1

ORDER CODE KEY

CBDX1-1-



LASERTYPE PORTS

- NC : Narrow Linewidth, C-Band, extended Band
- NL : Narrow Linewidth, L-Band
- GC : Narrow Linewidth, C-Band, standard-Band
- SC : Standard Linewidth, C-Band

CONNECTOR TYPE

- FA: FC/APC
- FP: FC/PC
- SP: SP/PC



CONFIGURE COBRITE MX

1

CHASSIS

Choose the right chassis for your application to match your requirement for features and supported laser types.



CBMA24

2

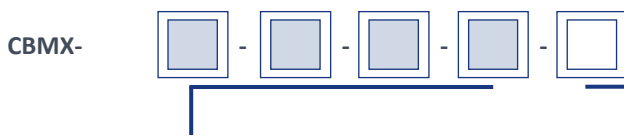
LASER CARDS

Select the laser source you need for your application. For products supporting multiple ports, mix variants as required.



CBMA48

ORDER CODE KEY: 2 OR 4 LASER PORTS PER CARD



LASERTYPE PORTS

- NC : Narrow Linewidth, C-Band, extended Band
- NL : Narrow Linewidth, L-Band
- NX : Narrow Linewidth, extended L-Band
- GC : Narrow Linewidth, C-Band, standard-Band
- SC : Standard Linewidth, C-Band
- LC : Narrow Linewidth C+L-Band, max. 2 ports per card
- NN : Not Equipped

CONNECTOR TYPE

- FA: FC/APC
- FP: FC/PC
- SP: SP/PC

19" RACKMOUNT ACCESSORY KIT FOR CBMA24

CBMA24-ACC-RM



DO YOU HAVE ANY QUESTION?

Please send an email to info@id-photonics.com or visit id-photonics.com



Invisible Laser Radiation
Class 1M Laser Product
EN 60825-1: IEC 60825-1

CONFIGURE ONLINE

Utilize our online configuration tool to customize your CoBrite for your specific application and easily request a quotation.

Get started now to tailor your solution and receive a personalized quote!



SHAPING LIGHT.

HELPING ENGINEERS AND SCIENTISTS IN
ADVANCING HOW THE WORLD COMMUNICATES,
SENSES AND CONNECTS

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