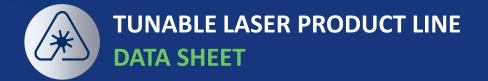


# SHAPING LIGHT.

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







# 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.









#### **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</li>
- 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.



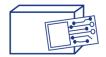
#### SIMPLE. INTUITIVE USABILITY

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



#### **COBRITE IS SCALABLE**

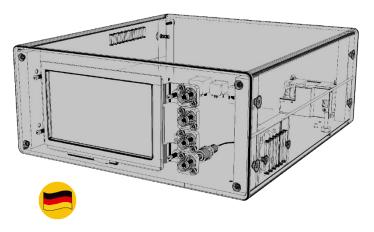
Chose your chassis from our CoBrite platform to support your application from 1 to 48 Laser ports in a single system.



#### **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

#### **BLENDS INNOVATION AND PRECISION TO ENSURE SUCCESS**

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.



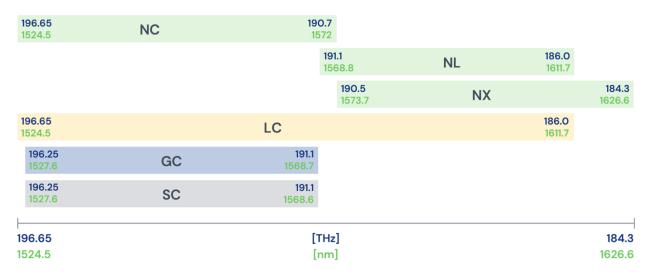
# **TUNABLE LASER SPECIFICATION**

OPTICAL PARAMETER	LASER TYPE N	LASER TYPE SC	LASER TYPE GC	UNIT
FREQUENCY RANGE: C - BAND INQUIRE FOR CUSTOMIZED PARAMETERS	190.70 – 196.65 (1524.5 - 1572nm) 186.00 – 191.1 (1568.8 – 1611.7nm)	191.12 – 196.25 (1527.6 – 1568.6nm) C – Band only	191.1 – 196.25 (1527.61 – 1568.77nm) C – Band only	THz
X – BAND C + L – BAND (LC)	184.30 - 190.5 (1573.7 - 1626.65nm) 186.00 - 196.65 (1524.5 - 1611.7nm)			1112
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 9.0 – 14.5 13 - 16 6.8 – 10.5	8.8 – 17.8 (17.0 dBm EOL) –	9.5 – 15.5 -	dBm
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				
OUTPUT POWER ACCURACY OVER LIFETIME OUTPUT POWER STABILITY OVER 1 HOUR OVER 24 HOURS	-/+1 +/- 0.03 (typ., at stable temperature) +/- 0.05 (typ. , at stable temperature)			dB
OUTPUT POWER SETTING RESOLUTION	0.01 0.1 0.01			dB
OPTICAL FIBER	Polarization-maintaining PANDA type Fiber, PER > 18dB, 25typ.			



# **COMPARISON OF LASER PARAMETER**

#### FREQUENCY/WAVELENGTH



#### **POWER TUNING RANGE**



#### **TYPICAL TUNING TIME**

0			NC	10.0
0			NL	10.0
0			NX	10.0
0			LC	10.0
0			GC	10.0
0	SC	1.5		
0			[s]	10.0



# **COMPARISON OF LASER PARAMETER**

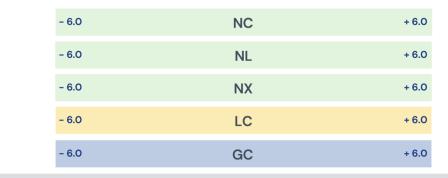
#### **TYPICAL LASER LINE WIDTH**

0	NC	25.0
0	NL	25.0
0	NX	25.0
0	LC	25.0
0	GC	25.0

0	sc	100.0
0	[kHz]	100.0

#### **FINE TUNING RANGE**

- 10



- 10.0	[GHz]	+10.0

SC

+ 10.0



# **COBRITE LASER TUNING METHODS**

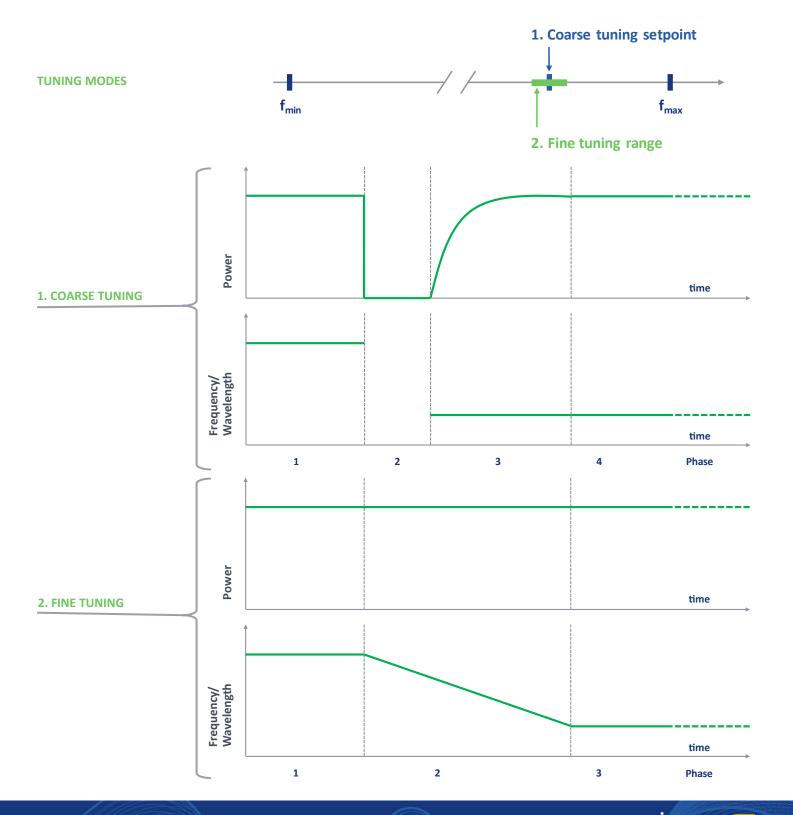


Access the full specified tuning range and

**COARSE TUNING** 

### **FINE TUNING** Enables precise frequency adjustment by offsetting

the coarse tuning set point within a small range. tune to any desired frequency.





# **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.



LASER SOURCES CHASSIS

**PRODUCTS** 

**CONFIGURE** 

# CHASSIS FFATURE COMPARISON

LASER TYPE	DX1	DX2	DX	MX
CHASSIS	IDPHOTONIGS  Cobrite DX1  A	DPHCIONIES - A DPHCIONIES - CORPLE CO	DEHOLONICS CURRENCE THE STREET TH	000
NUMBER OF LASER PORTS N, SC, GC TYPE	1	1 or 2	1, 2 or 4	4 per Card
NUMBER OF LASER PORTS N TYPE C+L BAND		1	1 or 2	2 per Card
TUNING TRIGGER PORTS VIA SMA CONNECTOR		$\subseteq$	$\subseteq$	$\subseteq$
USB PORT	✓	✓	✓	<b></b> ✓
LOCAL LASER ON/OFF BUTTON	✓	✓		
ETHERNET PORT		<b></b>		$\subseteq$
SCPI REMOTE CONTROL		<b></b> ✓		
INSTALLATION-FREE BROWSER-BASED GUI	GUI S/W provided	<b></b> ✓	<b>☑</b>	<b>☑</b>
MULTIPLE PARALLEL USER CONNECTIONS		$\checkmark$		
TOUCH PANEL DISPLAY				
INSTALLATION OF LASER PORTS BY USER				
AC POWER SUPPLY PROVIDED	External	External	Integrated	Integrated
19" RACK MOUNTABLE		1U, half width	2U, half width	<b>3</b> U
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.

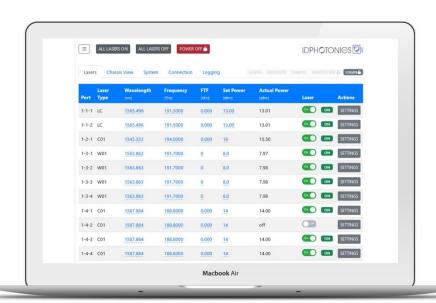
- Simplicity at Its Best: Say goodbye to complex installations and hello to instant control. Our laser system features an embedded graphical user interface (GUI) that requires no additional software. Just connect, and you're ready to
- Intuitive Design: Navigate with ease through our clean and modern 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.

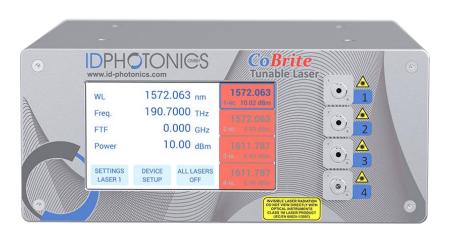


**COBRITE MX - WEB GUI ON TABLET** 



**COBRITE MX - WEB GUI ON DESKTOP** 





**COBRITE DX - TOUCH GUI ON PRODUCT** 



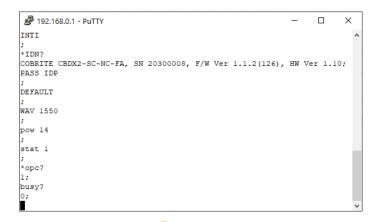
## **COBRITE AUTOMATION FEATURES**

# 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.

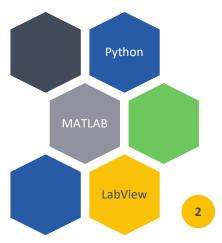
For example, "WAV?" queries the current wavelength while WAV  $\,1550\,$  sets the wavelength of a laser port.

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



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

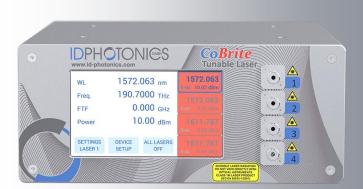


**SCPI QUERIES VIA HHTP** 



LASER SOURCES CHASSIS PRODUCTS

CONFIGURE



#### **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



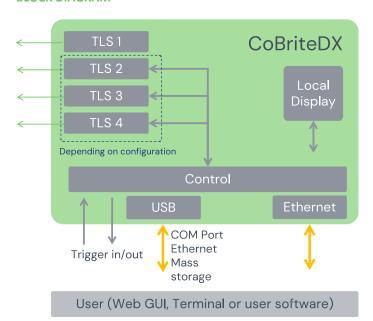
# **Operating Temperature**

0 to 40°C

#### **WEB GUI**



#### **BLOCK DIAGRAM**



#### **TOUCH GUI**





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



LASER SOURCES CHASSIS

**PRODUCTS** 

**CONFIGURE** 



#### **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

1.3 kg 2.9 lbs



#### Size of device

45 x 136 x 179 mm 1.77 x 5.35 x 7.04 inch 1U, half width



#### Operating Temperature

0 to 40°C

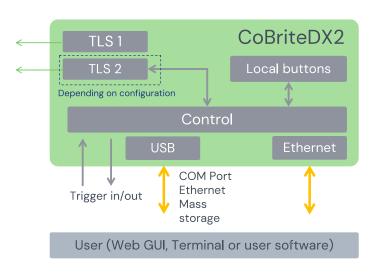
#### **WEB GUI**

Laser settings



×

#### **BLOCK DIAGRAM**







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



**LASER SOURCES CHASSIS PRODUCTS**  **CONFIGURE** 



#### **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 budgetfriendly multipurpose models to high-end narrow linewidth sources, there is a CoBrite DX1 tailored to suit your needs.



#### Weight

0.5 kg 1.1 lbs



#### Size of device

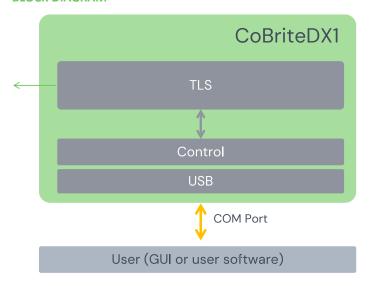
32 x 82 x 150 mm 1.3 x 3 x 6 inch



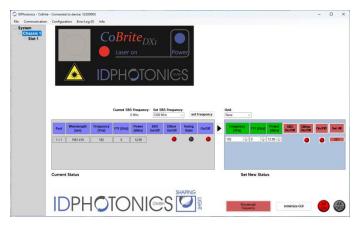
#### **Operating Temperature**

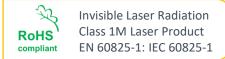
0 to 40°C

#### **BLOCK DIAGRAM**



#### **WEB GUI**





28.4.25



**LASER SOURCES CHASSIS PRODUCTS**  **CONFIGURE** 



#### **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.

#### CBMA 48



#### Weight

CBMA 24 - 4 kg 8.8 lbs

CBMA 48 - 8kg

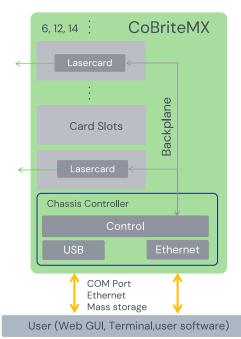
17.6 lbs

#### Size of device

345 x 152 x 380 mm 13 x 6 x 15 inch 482 x 152 x 540 mm

19 x 6 x 21 inch 3U - 19"rackmount standard

#### **BLOCK DIAGRAM**





**Operating** 

**Temperature** 

0 to 40°C

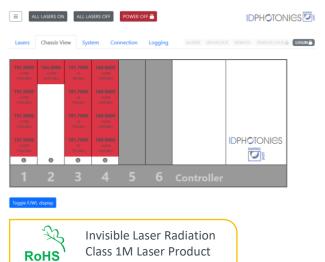
#### CBMA24

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**



EN 60825-1: IEC 60825-1

compliant

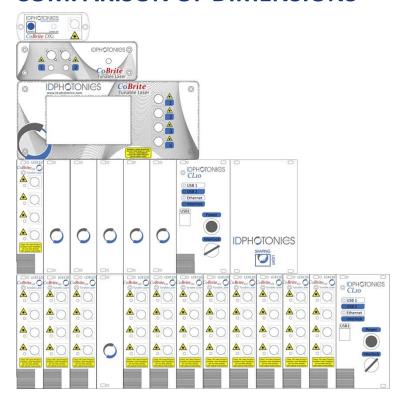
28.4.25



# **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, E	thernet	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**





**CHASSIS PRODUCTS CONFIGURE LASER SOURCES** 

# **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 unit

NN: Not Equipped



#### 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. 1 port per unit

NN: Not Equipped



#### 19" RACKMOUNT ACCESSORY KIT

#### **CONNECTOR TYPE**

FA: FC/APC FP: FC/PC

FA: FC/APC

FP: FC/PC

SP: SP/PC

SP: SP/PC

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**



#### **CHASSIS**

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



#### **LASER CARDS**

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



CBMA24



CBMA48

#### ORDER CODE KEY: 2 OR 4 LASER PORTS PER CARD

CBMX-



#### 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 <u>id-photonics.com</u>



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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