

XBO for BARCO Projectors



Areas of application

- Digital Cinema Projection

Product features and benefits

- High luminance for brighter screen illumination
- A lifetime of consistent performances with constant 6000 K color temperature
- Continuous spectrum in the visible range
- High arc stability
- High arc stability
- Dimmable over a wide range
- Hot restart



Product family datasheet

Technical data

Product description	General Product Information			
	Product number (Americas)	Product name (Americas)	Family brand	Global order reference
XBO 1200 W/DHP OFR	69596	XBO 1200W/DHP 1/CS 1/SKU	XBO	XBO 1200 W/DHP OFR
XBO 1600 W/DHP OFR	69840	XBO 1600W/DHP 1/CS 1/SKU		XBO 1600 W/DHP OFR
XBO 2000 W/DHP L OFR	68884	XBO 2000W/DHP L 1/CS 1/SKU		XBO 2000 W/DHP L OFR
XBO 2200 W/DHP OFR	67484	XBO 2200W/DHP 1/CS 1/SKU		XBO 2200 W/DHP OFR
XBO 2500 W/DHP OFR	69089	XBO 2500W/DHP 1/CS 1/SKU		XBO 2500 W/DHP OFR
XBO 3000 W/DHP OFR	69480	XBO 3000W/DHP 1/CS 1/SKU		XBO 3000 W/DHP OFR
XBO 3000 W/DHS OFR	69462	XBO 3000W/DHS 1/CS 1/SKU		XBO 3000 W/DHS OFR
XBO 3000 W/DHP L OFR	69048	XBO 3000W/DHP L 1/CS 1/SKU	XBO	XBO 3000 W/DHP L OFR
XBO 4000 W/DHP L OFR	69049	XBO 4000W/DHP L 1/CS 1/SKU		XBO 4000 W/DHP L OFR
XBO 3000 W/DHP XL OFR	59938	XBO 3000W/DHP XL 1/CS 1/SKU		XBO 3000 W/DHP XL OFR
XBO 4000 W/DHP OFR	69481	XBO 4000W/DHP 1/CS 1/SKU		XBO 4000 W/DHP OFR
XBO 4500 W/DHP OFR	69463	XBO 4500W/DHP 1/CS 1/SKU		XBO 4500 W/DHP OFR
XBO 4000 W/DHP LL OFR	59939	XBO 4000W/DHP LL 1/CS 1/SKU		XBO 4000 W/DHP LL OFR
XBO 4500 W/DHP L OFR	69050	XBO 4500W/DHP L 1/CS 1/SKU		XBO 4500 W/DHP L OFR
XBO 4000 W/DHP XL OFR	59940	XBO 4000W/DHP XL 1/CS 1/SKU		XBO 4000 W/DHP XL OFR
XBO 6000 W/DHP OFR	69476	XBO 6000W/DHP 1/CS 1/SKU		XBO 6000 W/DHP OFR
XBO 6000 W/DHP L OFR	69053	XBO 6000W/DHP L 1/CS 1/SKU		XBO 6000 W/DHP L OFR
XBO 6500 W/DHP OFR				XBO 6500 W/DHP OFR
XBO 6500 W/DHP L OFR	54337	XBO 6500W/DHP L OFR 1/CS 1/SKU		XBO 6500 W/DHP L OFR
XBO 6500 W/DHP XL OFR	55225	XBO 6500W/DHP XL 1/CS 1/SKU		XBO 6500 W/DHP XL OFR
XBO 7000W/DHP OFR	55226	XBO 7000W/DHP 1/CS 1/SKU		XBO 7000W/DHP OFR
XBO 6000 W/DHP XL OFR	59969	XBO 6000W/DHP XL 1/CS 1/SKU		XBO 6000 W/DHP XL OFR
XBO 6500 W/DHP IX OFR				XBO 6500 W/DHP IX OFR

Product family datasheet

Product description	Lamp type	Electrical Data		Photometric Data
		Nominal wattage	Current control range	Nominal luminous flux
XBO 1200 W/DHP OFR	XENON	1200 W	41...63 A	45000 lm
XBO 1600 W/DHP OFR		1600 W	57...86 A	
XBO 2000 W/DHP L OFR		2000 W	64...95 A	
XBO 2200 W/DHP OFR		2200 W	68...95 A	92000 lm
XBO 2500 W/DHP OFR		2500 W	63...95 A	
XBO 3000 W/DHP OFR		3000 W	77...113 A	135000 lm
XBO 3000 W/DHS OFR		3000 W	77...113 A	130000 lm
XBO 3000 W/DHP L OFR		3000 W	76...111 A	
XBO 4000 W/DHP L OFR		4200 W	95...137 A	
XBO 3000 W/DHP XL OFR		3000 W	76...111 A	
XBO 4000 W/DHP OFR		4000 W	91...130 A	170000 lm
XBO 4500 W/DHP OFR		4500 W	108...155 A	190000 lm
XBO 4000 W/DHP LL OFR		4200 W	95...137 A	
XBO 4500 W/DHP L OFR		4500 W	108...155 A	
XBO 4000 W/DHP XL OFR		4200 W	95...137 A	
XBO 6000 W/DHP OFR		6000 W	131...174 A	280000 lm
XBO 6000 W/DHP L OFR		6000 W	125...160 A	
XBO 6500 W/DHP OFR		6500 W	133...173 A	30000 lm
XBO 6500 W/DHP L OFR		6500 W	133...173 A	
XBO 6500 W/DHP XL OFR		6500 W	133...173 A	
XBO 7000W/DHP OFR		7000 W	130...175 A	
XBO 6000 W/DHP XL OFR		6000 W	125...160 A	
XBO 6500 W/DHP IX OFR		6500 W	133...173 A	

Product description	Light center length (LCL)	Physical Attributes & Dimensions		
		Electrode gap (cold)	Base (anode)	Base (cathode)
XBO 1200 W/DHP OFR	123.0 mm ¹⁾	3.5 mm	SFaX30-14	SFc30-16
XBO 1600 W/DHP OFR	123.0 mm ¹⁾	3.5 mm	SFaX30-14	SFc30-16
XBO 2000 W/DHP L OFR	123.0 mm ¹⁾	4.5 mm	SFaX30-14	SFc30-16
XBO 2200 W/DHP OFR	123.0 mm ¹⁾	3.7 mm	SFaX27-14x80	SFc27-16/55
XBO 2500 W/DHP OFR	123.0 mm ¹⁾	4.5 mm	SFaX27-14x80	SFc27-16/55
XBO 3000 W/DHP OFR	123.0 mm ¹⁾	4.5 mm	SFaX27-14x80	SFc27-16/55
XBO 3000 W/DHS OFR	145.0 mm ¹⁾	6.0 mm	SFaX27-9.5	SFa27-7.9
XBO 3000 W/DHP L OFR	123.0 mm ¹⁾	5.0 mm	SFaX27-14x80	SFc27-16/55
XBO 4000 W/DHP L OFR	123.0 mm ¹⁾	6.0 mm	SFaX27-14x80	SFc27-16/55
XBO 3000 W/DHP XL OFR	123.0 mm ¹⁾	5.0 mm	SFaX27-14x80	SFc27-16/55

Product family datasheet

Product description	Light center length (LCL)	Physical Attributes & Dimensions		
		Electrode gap (cold)	Base (anode)	Base (cathode)
XBO 4000 W/DHP OFR	123.0 mm ¹⁾	6.0 mm	SFaX27-14x80	SFc27-16/55
XBO 4500 W/DHP OFR	170.5 mm ¹⁾	6.0 mm	SFaX30-9.5	SFa30-7.9
XBO 4000 W/DHP LL OFR	123.0 mm	6.3 mm	SFaX27-14x80	SFc27-16/55
XBO 4500 W/DHP L OFR	170.5 mm ¹⁾	6.0 mm	SFaX30-9.5	SFa30-7.9
XBO 4000 W/DHP XL OFR	123.0 mm ¹⁾	6.3 mm	SFaX27-14x80	SFc27-16/55
XBO 6000 W/DHP OFR	170.5 mm ¹⁾	7.5 mm	SFaX30-9.5	SFa30-7.9
XBO 6000 W/DHP L OFR	170.5 mm ¹⁾	7.5 mm	SFaX30-9.5	SFa30-7.9
XBO 6500 W/DHP OFR	170.5 mm ¹⁾	7.5 mm	SFaX30-9.5	SFa30-7.9
XBO 6500 W/DHP L OFR	170.5 mm ¹⁾	8.0 mm	SFaX30-9.5	SFa30-7.9
XBO 6500 W/DHP XL OFR	170.5 mm ¹⁾	8.0 mm	SFaX30-9.5	SFa30-7.9
XBO 7000W/DHP OFR	170.5 mm ¹⁾	7.5 mm	SFaX30-9.5	SFa30-7.9
XBO 6000 W/DHP XL OFR	170.5 mm ¹⁾	8.0 mm	SFaX30-9.5	SFa30-7.9
XBO 6500 W/DHP IX OFR	170.5 mm ¹⁾	8.1 mm	SFa30-7.9	SFaX30-14

Product description	Diameter	Diameter	Diameter (in)	Length
XBO 1200 W/DHP OFR	46.5 mm	46.5 mm	1.594 in	345.0 mm
XBO 1600 W/DHP OFR	46.5 mm	46.5 mm		345.0 mm
XBO 2000 W/DHP L OFR	55.0 mm	55.0 mm		345.0 mm
XBO 2200 W/DHP OFR	52.0 mm	52.0 mm	2.047 in	345.0 mm
XBO 2500 W/DHP OFR	55.0 mm	55.0 mm		345.0 mm
XBO 3000 W/DHP OFR	55.0 mm	55.0 mm	2.165 in	345.0 mm
XBO 3000 W/DHS OFR	60.0 mm	60.0 mm	2.126 in	342.0 mm
XBO 3000 W/DHP L OFR	60.0 mm	60.0 mm	2.362 in	345.0 mm
XBO 4000 W/DHP L OFR	60.0 mm	60.0 mm	2.362 in	345.0 mm
XBO 3000 W/DHP XL OFR	60.0 mm	60.0 mm		345.0 mm
XBO 4000 W/DHP OFR	60.0 mm	60.0 mm	2.165 in	345.0 mm
XBO 4500 W/DHP OFR	60.0 mm	60.0 mm	2.362 in	436.0 mm
XBO 4000 W/DHP LL OFR	60.0 mm	60.0 mm		345.0 mm
XBO 4500 W/DHP L OFR	60.0 mm	60.0 mm		436.0 mm
XBO 4000 W/DHP XL OFR	60.0 mm	60.0 mm		345.0 mm
XBO 6000 W/DHP OFR	78.0 mm	78.0 mm	2.756 in	436.0 mm
XBO 6000 W/DHP L OFR	78.0 mm	78.0 mm		436.0 mm
XBO 6500 W/DHP OFR	78.0 mm	78.0 mm	2.756 in	436.0 mm
XBO 6500 W/DHP L OFR	78.0 mm	78.0 mm		436.0 mm

Product family datasheet

Product description	Diameter	Diameter	Diameter (in)	Length
XBO 6500 W/DHP XL OFR	78.0 mm	78.0 mm		436.0 mm
XBO 7000W/DHP OFR	78.0 mm	78.0 mm		436.0 mm
XBO 6000 W/DHP XL OFR	78.0 mm	78.0 mm		436.0 mm
XBO 6500 W/DHP IX OFR	78.5 mm	78.5 mm		436.0 mm

Product description	Length with base excl. base pins/connection	Cable/wire length, input side	Connector: presence	Product weight
XBO 1200 W/DHP OFR	295.00 mm	130 mm	Yes	485.00 g
XBO 1600 W/DHP OFR	295.00 mm	130 mm	Yes	485.00 g
XBO 2000 W/DHP L OFR	295.00 mm	130 mm	Yes	530.00 g
XBO 2200 W/DHP OFR	295.00 mm	130 mm	Yes	534.00 g
XBO 2500 W/DHP OFR	295.00 mm	130 mm	Yes	558.00 g
XBO 3000 W/DHP OFR	295.00 mm	130 mm	Yes	581.00 g
XBO 3000 W/DHS OFR	302.00 mm	155 mm	Yes	591.00 g
XBO 3000 W/DHP L OFR	295.00 mm	130 mm	Yes	623.00 g
XBO 4000 W/DHP L OFR	295.00 mm	130 mm	Yes	645.00 g
XBO 3000 W/DHP XL OFR	295.00 mm	130 mm	Yes	623.00 g
XBO 4000 W/DHP OFR	295.00 mm	130 mm	Yes	670.00 g
XBO 4500 W/DHP OFR	393.00 mm	155 mm	Yes	853.00 g
XBO 4000 W/DHP LL OFR	295.00 mm	130 mm	Yes	645.00 g
XBO 4500 W/DHP L OFR	393.00 mm	155 mm	Yes	853.00 g
XBO 4000 W/DHP XL OFR	295.00 mm	130 mm	Yes	645.00 g
XBO 6000 W/DHP OFR	393.00 mm	155 mm	Yes	1000.00 g
XBO 6000 W/DHP L OFR	393.00 mm	155 mm	Yes	1000.00 g
XBO 6500 W/DHP OFR	393.00 mm	155 mm	Yes	1000.00 g
XBO 6500 W/DHP L OFR	393.00 mm	155 mm	Yes	1023.00 g
XBO 6500 W/DHP XL OFR	393.00 mm	155 mm	Yes	1023.00 g
XBO 7000W/DHP OFR	393.00 mm	155 mm	Yes	1023.00 g
XBO 6000 W/DHP XL OFR	393.00 mm	155 mm	Yes	1000.00 g
XBO 6500 W/DHP IX OFR	393.00 mm	155 mm	Yes	1000.00 g

Product description	Operating Conditions			Lifetime Data
	Burning position	Cooling	Max. permitted ambient temp. pinch point	Warranty hours
XBO 1200 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	3000 hrs
XBO 1600 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	3000 hrs
XBO 2000 W/DHP L OFR	s15/p15 ²⁾	Forced	230 °C	3300 hrs
XBO 2200 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	1500 hrs
XBO 2500 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	1700 hrs
XBO 3000 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	1500 hrs
XBO 3000 W/DHS OFR	s15/p15 ²⁾	Forced	230 °C	1500 hrs
XBO 3000 W/DHP L OFR	s15/p15 ²⁾	Forced	230 °C	1900 hrs
XBO 4000 W/DHP L OFR	p15/s15 ²⁾	Forced	230 °C	1300 hrs

Product family datasheet

Product description	Operating Conditions			Lifetime Data
	Burning position	Cooling	Max. permitted ambient temp. pinch point	Warranty hours
XBO 3000 W/DHP XL OFR	s15/p15 ²⁾	Forced	230 °C	2200 hrs
XBO 4000 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	1100 hrs
XBO 4500 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	1000 hrs
XBO 4000 W/DHP LL OFR	p15/s15 ²⁾	Forced		1500 hrs
XBO 4500 W/DHP L OFR	s15/p15 ²⁾	Forced	230 °C	1300 hrs
XBO 4000 W/DHP XL OFR	s15/p15 ²⁾	Forced	230 °C	1900 hrs
XBO 6000 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	650 hrs
XBO 6000 W/DHP L OFR	s15/p15 ²⁾	Forced	230 °C	800 hrs
XBO 6500 W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	500 hrs
XBO 6500 W/DHP L OFR	s15/p15 ²⁾	Forced	230 °C	700 hrs
XBO 6500 W/DHP XL OFR	s15/p15 ²⁾	Forced	230 °C	800 hrs
XBO 7000W/DHP OFR	s15/p15 ²⁾	Forced	230 °C	300 hrs
XBO 6000 W/DHP XL OFR	s15/p15 ²⁾	Forced	230 °C	1000 hrs
XBO 6500 W/DHP IX OFR	h90 ²⁾	Forced	230 °C	1000 hrs

		Environmental & Regulatory Information Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)		
Product description	Service warranty lifetime	Primary article identifier	Declaration no. in SCIP database	Candidate list substance 1
XBO 1200 W/DHP OFR	3800 hr	4008321396433 4052899497962 4062172030472	f6cc71e9-adae-4c95- afe0-07d36b5e74f6	Lead
XBO 1600 W/DHP OFR	3800 hr	4052899254831 4062172030465	ddc0ca29-d545- 4244-bd3d- 01657e49e316	Lead
XBO 2000 W/DHP L OFR	3500 hr	4062172030427 4052899275638	3cc8eb7d-934b-482f- ade0-0afdb83ac51b	Lead
XBO 2200 W/DHP OFR	2000 hr	4008321865489 4062172030373	5e903ee1-3cc9-40f0- ae95-0a54da9c2b3a	Lead
XBO 2500 W/DHP OFR	2000 hr	4062172030380 4052899010413	2699a8c3-f6d1- 4519-a2c4- 83464e509907	Lead
XBO 3000 W/DHP OFR	1900 hr	4052899195783 4052899468191 4008321330048 4062172030410 4052899096073 4052899287785	34a49bce-cf7a-477b- 8d7b-991718631ed4 a303e60b-72e8- 4104-9c0c- 1f16adeed959 2c70619c-7452- 40e1-9f11- 72c36a77558d	Lead
XBO 3000 W/DHS OFR	2000 hr	4008321199065 4062172030540 4008321330017	0ad1e6ac-a107- 4e86-a73c- 0a8cdc49edb4 468df0c2-2da9- 47b4-a001- 357079e3d0c0	Lead

Product family datasheet

		Environmental & Regulatory Information Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)		
Product description	Service warranty lifetime	Primary article identifier	Declaration no. in SCIP database	Candidate list substance 1
XBO 3000 W/DHP L OFR	2100 hr	4052899317277 4052899235908 4052899212886 4062172030502	42b5a623-65c3-4fc7- b272-e9973ba1c9ec	Lead
XBO 4000 W/DHP L OFR	1500 hr	4052899468214 4052899235915 4052899212879 4062172030403	a182c938-75ef-44e7- a0e6-e8e301002b19 ee6fe08d-465e- 439d-9156- a1830163f87d	Lead
XBO 3000 W/DHP XL OFR	2400 hr	4062172092401	4d1b0324-7408- 4c16-afc9- 0e4165c645a1	Lead
XBO 4000 W/DHP OFR	1400 hr	10046135694810 4052899287792 4052899195790 4008321546272 4062172030397 4052899096080 4052899091825 4052899317208	ce588d4a-f4ef-4dda- 8e54-ddab4457e440 56ff5a8b-6ea4- 41c2-bd17- d898f6c185d1	Lead
XBO 4500 W/DHP OFR	1300 hr	4008321633422 4062172030571	012f940f-18dd-409c- 9473-04140360c548	Lead
XBO 4000 W/DHP LL OFR	1900 hr	4062172114080	68536058-a0f0-4f39- 8967-a173bfd19c5b	Lead
XBO 4500 W/DHP L OFR	1500 hr	4052899343344 4062172030588	3de76945-7771- 4e03-9280- 550799b927c9	Lead
XBO 4000 W/DHP XL OFR	2100 hr	4062172092395	cc43340f-d501-48a4- 97e6-2064cf408c27	Lead
XBO 6000 W/DHP OFR	800 hr	4008321549693 4062172030663 4052899144026	8566eac2-b860- 4860-9c27- f7b8e2871b1f	Lead
XBO 6000 W/DHP L OFR	1100 hr	4052899343405 4052899087088 4062172030670	e1be3907-8f4f-4d48- b496-86874180bac4	Lead
XBO 6500 W/DHP OFR	750 hr	4008321676078 4062172030731	412959b3-e26e- 4a82-89ba- 3ce9a6fa908b	Lead
XBO 6500 W/DHP L OFR	800 hr	4052899448636 4062172030755	326fc61e-87e5-491e- a54a-876602402f4a	Lead
XBO 6500 W/DHP XL OFR	1000 hr	4052899593640 4062172031684	0afbcb5a-721a-4942- bd3d-6024b2eff6a3	Lead
XBO 7000W/DHP OFR	500 hr	4062172031707	885c4405-74b6- 4820-817d- 399a936e4918	Lead
XBO 6000 W/DHP XL OFR	1200 hr	4062172110839	e98aa7da-cb44- 4008-ab03- b605fac43791	Lead
XBO 6500 W/DHP IX OFR	1200 hr	4062172363792	346fd5af-c163-49af- 9dc5-a01a9fe85570	Lead

Product family datasheet

Product description	CAS No. of substance 1	Safe use instruction
XBO 1200 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 1600 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 2000 W/DHP L OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 2200 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 2500 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 3000 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 3000 W/DHS OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 3000 W/DHP L OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 4000 W/DHP L OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.

Product family datasheet

Product description	CAS No. of substance 1	Safe use instruction
XBO 3000 W/DHP XL OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 4000 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 4500 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 4000 W/DHP LL OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 4500 W/DHP L OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 4000 W/DHP XL OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 6000 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 6000 W/DHP L OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 6500 W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.

Product family datasheet

Product description	CAS No. of substance 1	Safe use instruction
XBO 6500 W/DHP L OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 6500 W/DHP XL OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 7000W/DHP OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 6000 W/DHP XL OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.
XBO 6500 W/DHP IX OFR	7439-92-1	The identification of the Candidate List substance is sufficient to allow safe use of the article.

1) Distance from end of base to tip of electrode (cold)

2) For vertical burning position: anode (+) on top

Product family datasheet

Safety advice

Because of their high luminance, UV radiation and internal pressure in both the hot and cold state, XBO lamps may only be operated in enclosed lamp casings specially constructed for the purpose. Xenon lamps are highly explosive. When hot, xenon lamps can cause burn marks. They should only be handled when the lamp is at room temperature. Always use the protective jackets supplied when handling these lamps. When packing the lamps and when installing or removing the lamps without their protective jackets, always wear protective clothing (face shield with neck protector, protective jacket and lint-free, cut-resistant gloves). For more information see the relevant in-pack leaflets and operating instructions.

Application advice

For more detailed application information and graphics please see product datasheet.

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.