

EASY-LASER[®]

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Wind Turbine Shaft Alignment



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 **CLOUD
CONNECTED**

XT

For manufacturing and field service

SHAFT ALIGNMENT FOR THE WIND INDUSTRY

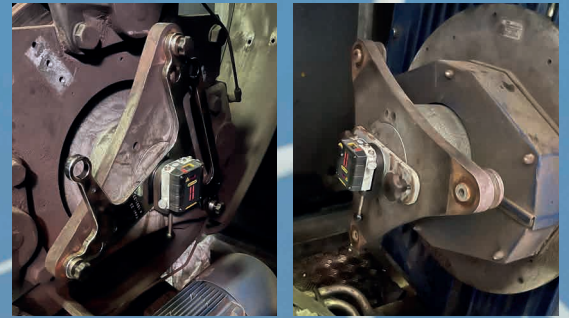
The Easy-Laser® XT Wind shaft alignment solutions are specifically designed for gearbox to generator alignment in wind turbines. All parts are designed for maximum accuracy and stability, and measure with a resolution of 0.001 mm [0.05 mils]. They are suitable for use both in manufacturing and in field services activities. There are brackets available for most brands and models on the market.

TWO MAIN TYPES OF SYSTEMS

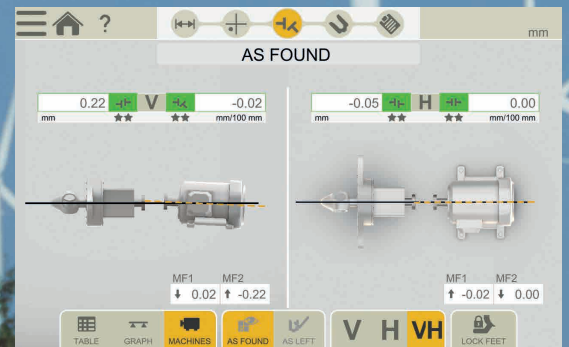
Vi offer two main types of systems – for alignment with the coupling dismantled, or for work when the machine/coupling can be rotated during measurement. Moreover, there are also variants for each type. Learn more on the following pages.

RECOMMENDED COMBINATION

With a combination of system XT660 WMB (Wind Multi Brand) and VESTAS 6+7.5 you cover most models of turbines. Good to know is that the VESTAS systems are designed for and follow their work instructions, for correct and accepted job procedures.



Alignment with the coupling dismantled.



The software shows how to adjust the machinery to correct alignment within tolerances.





EASY TO USE AND LEARN



The measurement program app is available for iOS, Android, and our rugged XT12 tablet. It can be downloaded to any number of devices for free. The XT app guides the user step-by-step through the work procedure. Five different measurement methods are available to simplify the work.



BUILT-IN HELP

The app includes a searchable *Users Manual* which opens the relevant chapter depending where in the process you are. This makes it quick and easy to find the answer to your user questions.



MANY LANGUAGES

The XT Alignment App comes in over 15 languages. Together with the guiding icons this makes it very easy to use also for unexperienced users.

SAVE AND SHARE



INTERNAL MEMORY

Save your measurement files, photos and reports to the internal memory.



VERSATILE FILE TYPES

Both a PDF and an Excel file are generated.



ADD NOTES

Explain the measurement a little more.



SIGN REPORTS ELECTRONICALLY

Sign-on screen to verify your job. Signature is saved with the PDF file.



ADD PHOTO

Add a picture for better understanding.



SEND THE REPORTS

Share the reports via email. Possible on all platforms.



SAVE TO USB

Save your files to USB stick and copy to other devices.

XT660 Shaft WMB



XT660 Shaft Wind Multi Brand (Part No: 12-1393)

Fits most turbine models. Contact us for up-to-date information.



12-1393	System XT660 Shaft WMB	pcs.
12-1028	Measuring unit XT60-M	1
12-1029	Measuring unit XT60-S	1
12-0963	Shaft brackets with chain and rods 120 mm	2
01-2117	Rods 75 mm	4
01-0873	Rods 120 mm	4
12-0128	Extension chain (2x900 mm)	1
12-0013	Magnet base	2
12-1008	Offset bracket for XT series	2
12-1373	Flange clamping bracket	2
03-1707	Measuring tape 5 m	1
03-0967	Hexagon wrench set	1
03-1256	Battery charger (100–240 V AC)	1
12-0989	DC split cable for charging	1
12-0751	DC to USB adapter, for charging	1
05-0863	Quick manual (Note: Refers to English manual)	1
03-0878	Cleaning cloth for optics	1
03-0914	USB memory stick with documentation	1
04-0307	Set of QR code stickers	1
12-0973	Carrying case Medium	1
Dimensions: WxHxD 460x350x175 mm [18.1x13.8x6.9"]		
Weight: 10.0 kg [22.0 lbs]		

Add display unit XT12

12-1292	XT12 with IR Camera	(1)
12-1291	XT12	(1)
12-0997	Shoulder strap for XT12	(1)

XT660 Shaft SG1



XT660 Shaft SiemensGamesa1 (Part No. 12-1389)

Please note that in the SG1 carrying case there is no space for an XT12 display unit.

For turbines: Contact us for up-to-date information.

12-1389	System XT660 Shaft SG1	pcs.
12-1028	Measuring unit XT60-M	1
12-1029	Measuring unit XT60-S	1
12-0963	Shaft brackets with chain and rods 120 mm	-
01-2117	Rods 75 mm	4
01-0873	Rods 120 mm	4
12-0128	Extension chain (2x900 mm)	-
12-0013	Magnet base	2
12-1008	Offset bracket for XT series	2
12-1373	Flange clamping bracket	2
03-1707	Measuring tape 5 m	1
03-0967	Hexagon wrench set	1
03-1256	Battery charger (100–240 V AC)	1
12-0989	DC split cable for charging	1
12-0751	DC to USB adapter, for charging	1
05-0863	Quick manual (Note: Refers to English manual)	1
03-0878	Cleaning cloth for optics	1
03-0914	USB memory stick with documentation	1
04-0307	Set of QR code stickers	1
12-0973	Carrying case Medium (*with SG1 insert added)	1
Dimensions: WxHxD 460x350x175 mm [18.1x13.8x6.9"]		
Weight: 10.0 kg [22.0 lbs]		

VESTAS 7



Vestas 7 (Part No: 12-1448)

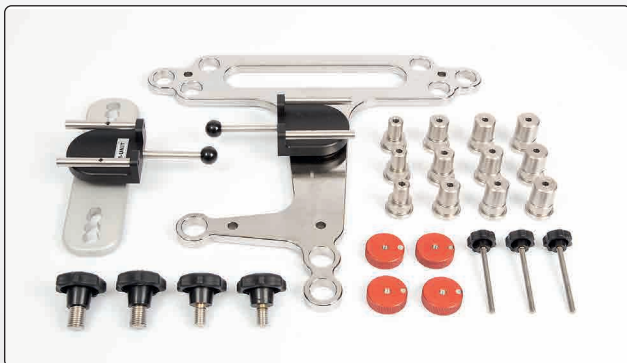
For turbines: 3 MW and larger (except model V90).



12-1448	Installation kit, Vestas 7	pcs.
12-1028	Measuring unit XT60-M	1
12-1029	Measuring unit XT60-S	1
01-1520	Adapter for Gearbox fixture 40 mm	4
01-2142	Bushings for MK3E / V150	1
01-2143	Washer for MK3E / V150	2
01-2163	Bushings for MK3E / V150	1
12-1140	Screw to bushings V150 L=45mm	2
03-1034	Ext. adapter distance gauge + fastening screw L=55 mm	1
03-0613	Distance gauge (coupling flanges) incl. adapter	1
12-0712	Nut to adapters with magnet M6	5
12-0714	Screw to adapters	4
12-0713	Fixture kit for V112	2
03-1256	Charger XT	1
12-0751	DC to USB adapter, for charging	1
12-0989	DC split cable for charging	1
03-1707	Measuring tape 5 m	1
03-0914	USB memory stick	1
05-1072	Vestas 7 Manual	1
12-1436	Carrying case Vestas 7	1
Dimensions: WxHxD 670x600x220 mm [26.4x23.6x8.7"]		
Weight 27.5 kg [60.6 lbs]		

Add display unit XT12		
12-1292	XT12 with IR Camera	(1)
12-1291	XT12	(1)
12-0997	Shoulder strap for XT12	(1)

VESTAS 6



Vestas 6 (Part No: 12-1142) Note: If only ordering this kit, then Part No. 03-0613 and 03-1034 are also required to correctly follow the Vestas work instructions.

For turbines: Smaller than 3 MW (plus model V90).

12-1142	Supplement Service kit, Vestas 6	pcs.
12-0703	Detector-fixture Generator flange	1
12-0297	Screw knob to Generator fixture M12	2
12-0298	Screw knob to Generator fixture M16	2
12-0718	Detector-fixture Gearbox flange	1
01-0815	Adapter for Gearbox fixture 25 mm	3
01-0816	Adapter for Gearbox fixture 24 mm	3
01-0817	Adapter for Gearbox fixture 22 mm	3
01-0818	Adapter for Gearbox fixture 17 mm	3
12-0296	Screw to adapters	3
12-0299	Nut to adapters with magnet M6	4
12-1165	Carrying case Vestas 6	1
Dimensions: WxHxD 570x470x220 mm [22.4x18.5x8.7"]		
Weight 7.0 kg [15.4 lbs]		

VESTAS 7.5



Vestas 7.5 (Part No: 12-1472)

For turbines: 3 MW and larger (except model V90).

12-1472	Mechanical bracket kit XT	pcs.
12-0712	Nut to adapters with magnet M6 V112	5
12-0714	Screw to Adapters V112, L=75mm	4
12-0713	Fixture Kit for V112	2
01-1520	Adaptor for fixture V112	4
03-0613	Distance gauge incl. adaptor + fastening screw L=35mm	1
03-1034	Adaptor, incl. fastening screw L=55mm	1
01-2163	Bushings for MK3E / V150	1
01-2142	Bushings for MK3E / V150	1
01-2143	Washer for MK3E / V150	2
12-1140	Screw to bushings V150 L=45mm	2
03-1707	Measurement tape 3m	1
12-1436	Carrying case Vestas 7	1
Dimensions: WxHxD 670x600x220 mm [26.4x23.6x8.7"]		
Weight 27.0 kg [59.5 lbs]		

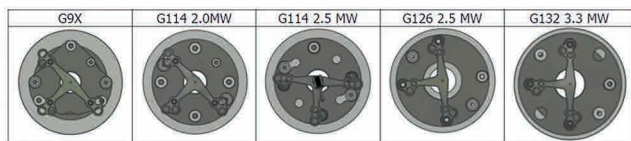
GAMESA GA1



Gamesa GA1 (Part No. 12-1114)

For use on turbine models:

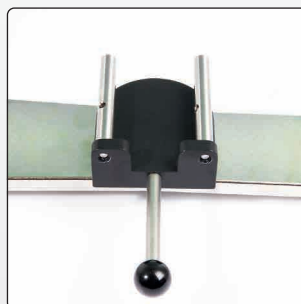
JOINT ELEMENTS	TURBINE MODEL
M24 bolts + small bushings (ØExt. 46 mm.)	G9X-G114 2.0 MW; G114 2.5 MW
M30 bolts + large bushings (ØExt. 60 mm.)	G126 2.5 MW; G132 3.3 MW



12-1114	Bracket kit, GA1	pcs.
12-0975	Detector-fixture Generator flange GA1	1
01-1889	Adapters to Generator flange GA1 M24	2
01-1892	Adapters to Generator flange GA1 diameter 40 mm	2
01-1891	Adapters to Generator flange GA1 diameter 31 mm	2
01-1890	Adapters to Generator flange GA1 diameter 25 mm	2
12-0974	Screw to Adapters L=120 mm	2
12-0712	Nut to adapters with magnet M6	2
12-0976	Detector-fixture Gearbox flange GA1	2
12-0977	Screw M24 for Gearbox fixture	3
12-0978	Screw M30 for Gearbox fixture	3
01-1884	Adapters for M24 Screw to Gearbox fixture	3
01-1885	Adapters for M30 Screw to Gearbox fixture	3
03-0613	Distance Gauge (coupling flanges), incl. adapter	1
03-1034	Ext. adapter distances gauge	2
12-1116	Carrying case for 12-1114	1
Dimensions: WxHxD 565x455x210 mm [22.2x17.9x8.2"]		
Weight 17.0 kg [37.5 lbs]		

Upgrade old systems for XT

If you have an old wind shaft system which was designed for use with E-series measuring units, it is in most cases possible to upgrade the rotational units on the brackets for use with XT units also. The difference is the distance between the rods (C-C 40mm vs 56 mm). The XT measuring units are also available as separate parts.



Rotational unit for wind shaft bracket. Rod C-C 56 mm. Note: 2pcs might be needed. Part No. 12-1419



Easy-Laser XT60 measuring units.
Part No. 12-1028+12-1029

Accessories



Flange clamping bracket. Maximum clamping width 27 mm [1.06"].
Part No. 12-1373



Magnetic bracket. For axial mounting on flanges or shafts. Part No. 12-1147



E-series bracket adaptor for rod C-C 40 mm To be used with 12-1419.
Part No. 12-1473



Supplement parts for Vestas 7.5 kit.
Part No. 12-0613
Part No. 03-1034

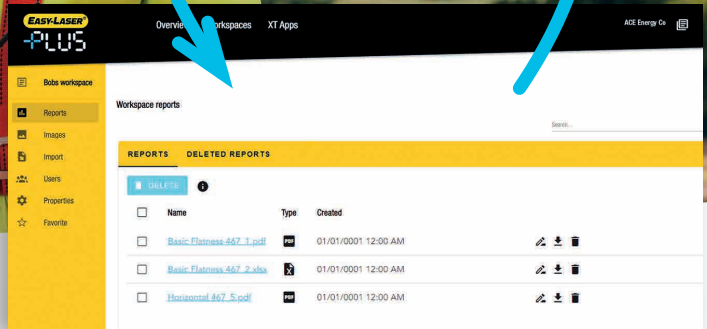
Technical specifications

Measuring units XT60-M / XT60-S

Type of detector	1 axis TruePSD 20x20 mm [0.79x0.79"]
Communication	BT wireless technology
Battery type	Heavy duty Li Ion chargeable
Operating time	Up to 24 h continuously
Resolution	0.001 mm [0.05 mils]
Measurement accuracy	$\pm 1\mu\text{m} \pm 1\%$
Measurement range	Up to 20 m [66 feet]
Type of laser	Diode laser
Laser wavelength	630–680 nm
Laser class	Safety class 2
Laser output	<1 mW
Electronic inclinometer	0.1° resolution
Environmental protection	IP66/67. Designed for outdoor use (pollution degree 4)
Operating temperature	-10–50 °C
Storage temperature	-20–50 °C
Relative humidity	10–95%
OLED display	128x64 pixels
Housing material	Anodized aluminium + PC/ABS + TPE
Dimensions WxHxD	76x76.7x45.9 mm [3.0x3.0x1.8"]
Weight	272 g [9.6 oz]

XT12 Display unit

Type of display/size	8" LCD capacitive multi-touch colour display
Battery type	Heavy duty Li Ion rechargeable
Operating time	Up to 16 h continuously
Connections	USB A, USB C, Charger, AV
Communication	Wireless technology, WiFi
Camera, with LED diode	13 Mp autofocus
IR camera (optional)	FLIR LEPTON® (0–400 °C, 32–752 °F)
Languages	/en /de /sv /es /pt /ru /ja /ko /zh /it /fr /pl /fi /tr /th /vi
Help functions	Built-in manual
Environmental protection	IP66/67. Designed for outdoor use (pollution degree 4)
Operating temperature	-10–50 °C [14–122 °F]
Storage temperature	-20–50 °C [-4–122 °F]
Relative humidity	10–95%
Loudspeakers	Built-in, rear-facing
Charger	15 V
Housing material	PC/TPE or PC/TPU
Dimensions WxHxD	269.0x190.0x49.4 mm [10.59x7.48x1.95"]
Weight	1400 g [49.4 oz]

EASY-LASER®**PLUS™**

Add extra power to your alignment system

...and your team!

Easy-Laser PLUS™ is our cloud solution where you:

- ✓ Collaborate with your maintenance team on job assignments.
- ✓ Collect all your team's measurement data in one place for quick overview and analysis.
- ✓ Copy your measurement data to a new device if your tablet is lost or damaged.
- ✓ Restore accidentally deleted files on your tablet.
- ✓ Receive information about the latest software updates.

Simply put, Easy-Laser PLUS™ is your hub for the team's measurement jobs and extra security for your data. But that's not all...

Learn more at easylaser.com!

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LASER
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