Easy-Laser® D150 BTA digital
Sheave/Pulley Alignment Tool

LASER SECURITY

This is a laser instrument in laserclass II with an output power less than 1 mW, which only requires the following safety precautions:

Never stare directly into the laserbeam. Never aim the laserbeam to anyone elses eyes.

CAUTION
LASER RADIATION
DO NOT STARE INTO BEAM
DIODE LASER
1 mW MAX OUTPUT AT 670 nm
CLASS II LASER PRODUCT

NOTE! Opening the laser units can result in hazardous radiation, and will break the manufacturer warranty.
NOTE! The instrument should not be used in explosive risk areas.

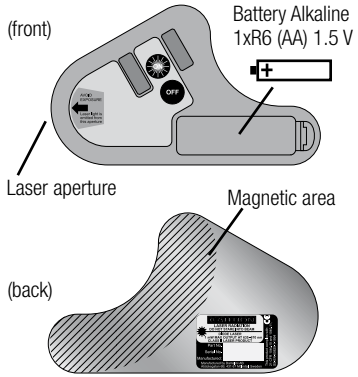
DISCLAIMER

Damalini and our authorized dealers will take no responsibility for damages on machines and plants as the result of the use of the instrument.

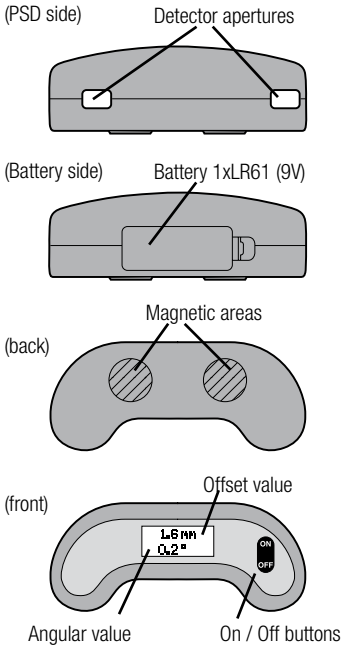
SAFETY PRECAUTIONS

Warning! If starting the machine that will be measured can result in personal injuries, the possibility to unintentially start it shall be disabled before mounting the measurement equipment, for example by locking the switch in off position or remove the fuses. These safety precautions should remain until the measurement equipment are removed from the machine.

LASER TRANSMITTER



DETECTOR UNIT



SETTING MEASUREMENT UNIT

You can select to display the offset value in millimeters or inches:
Press and keep hold of the On-button, then press the Off button to toggle between [mm] and ["].

TECHNICAL SPECIFICATIONS

Laser transmitter

Sheave diameters	>Ø60 mm [2.5"]
Laser class	2
Output power	<1 mW
Laser wavelength	635–650 nm
Beam angle	60°
Accuracy, Laser plane – Reference plane:	
Parallelity: < 0.05°,	
Offset < 0.2 mm [0.008"]	
Battery type	1xR6 (AA) 1,5 V
Battery operation	8 hours cont.
Material	ABS plastics / Hard anodized aluminium
Dimensions BxHxD:	
145x86x30 mm [5.7x3.4x1.2"]	
Weight	270 g [9.52 oz]

Detector unit

Displayed resolution:	
(Changeable between mm/inch.)	
Axial offset: 0.1 mm [0.005"].	
Angular value: 0.1°	
Max. displayed error	±1 % + 1 digit
Measurement distance between Transmitter and Detector	Up to 3 m [9.8']
Measurement range:	
Axial offset: ±3 mm [0.12"].	
Angular value: ±3°	
Battery type	1xLR61 (9V)
Battery operation	24 hours cont.
Housing material	ABS plastics
Dimensions BxHxD:	
135x56x46 mm [5.3x2.2x1.8"]	
Weight	220 g [7.76 oz]

FEATURE

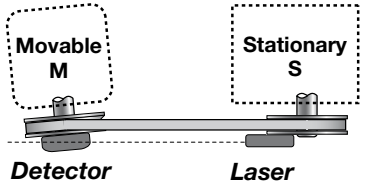
Attach to non magnetic sheaves. Because of the light weight of the transmitter and the detector you can also mount the units onto non magnetic sheaves by attaching pieces of double sided adhesive tape to the magnetical surface. Be sure that both the surface and the sheaves are cleaned from grease and oil before attaching.

CARE

Clean the units and the windows at the apertures with a dry cotton cloth. If not using the laser or detector for a long period of time, remove the batteries.

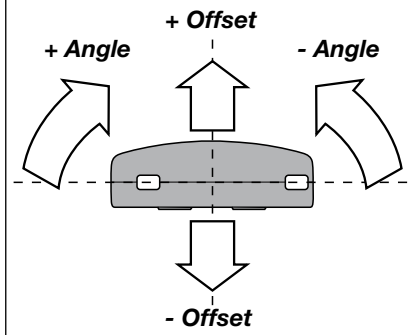
1. PLACING THE UNITS

The laser shall be placed at the Stationary (S) machine and the detector at the Movable (M).



2. VALUE DIRECTIONS

The displayed values refer to the detector as follows:

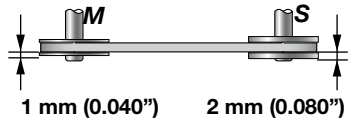


Offset **1.6 mm** or **0.065"**
Angle **0.2°** **0.2°**

Examples of values on the display.

3. DIFFERENT SHEAVE FACE WIDTH

If the sheaves have different face widths, just add or subtract the difference from the zero value to get the value for perfect alignment.



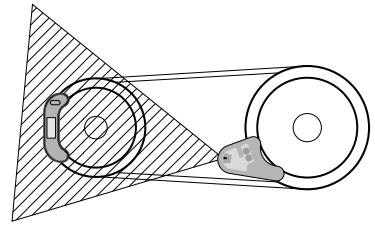
Example as above:

-1.0 mm **0.0°** or **-0.040"** **0.0°**

Values on the display when perfectly aligned sheaves.

4. VERTICAL ALIGNMENT

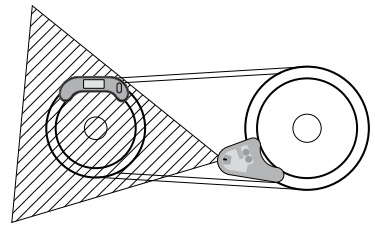
Place the detector vertically according to the picture to check the parallelity between the sheaves. If necessary, shim rear or front feet.
If the **offset** is too large, move the sheave axially on the shaft within acceptable tolerance.



Detector placed for Vertical alignment. Also note Transmitter placement. Adjust the Transmitter so that the laser plane hits both the detector apertures.

5. HORIZONTAL ALIGNMENT

Place the detector horizontally according to the picture, and adjust the movable machine within acceptable tolerance.



Detector placed for Horizontal alignment. Adjust the Transmitter so that the laser plane hits both the detector apertures.

6. ADJUST THE BELT TENSION

TOLERANCES

Recommended maximum tolerances from manufacturers of belt transmissions is 0.25–0.50°. Recommendations are always dependent on belt type.
Please consult the design manual of the specific belt type.

< °	mm/m mils/inch	
0.1	1.75	
0.2	3.49	
0.3	5.24	*Recommended*
0.4	6.98	
0.5	8.73	
0.6	10.47	
0.7	12.22	
0.8	13.96	
0.9	15.71	
1.0	17.45	

NOTE!

The product is designed to be used on sheaves/pulleys. Both of the magnetic reference surfaces must be in contact with the object.