LASER REPORT

Laser line, cross and dot pointers have been designed and built for the alignment and positioning of materials for several applications. Therefore, they can be used on sewing machines as well as on cutting, pressing, knitting, ironing, embroidery machines and many others.

OUR POINTING SYSTEMS INCLUDE:

DOT LASER: ONLY available with 670 nm (nanometre) laser modules

LINE LASER: Available with either 635 nm or 670 (nanometre) laser modules

- The 635 nm laser module is used for making a STRONG LINE
- The 670 nm laser module is used for making a WEAK LINE

CROSS LASER: Available with either 635 nm or 670 nm (nanometre) laser modules

- The 635 nm laser module is used for making a STRONG CROSS
- The 670 nm laser module is used for making a WEAK CROSS

TECHNICAL FEATURES:

Dimensions:

- 18 millimetres in diameter--- the external thickness of the metallic sheath
- 60 millimetres in length--- the length of the metallic sheath

Peso:

- Kg 0,070

Sheath: Aluminium

Power Supply: **Between 3 and 6 volts** of direct current. It is the power supplied to the laser module by the power supply unit after it has been switched on. This topic needs to be explained carefully. We make power supply units (discussed later) and sell them as an additional purchase, but some customers purchase only the pointer, connecting it **not** to a stabilized current but instead to some other type of battery that does not supply stabilized power. **This is dangerous for laser modules, possibly shortening their lifespan as a result.**

Guarantee: one year from purchase (if used ONLY with one of our power supply units)

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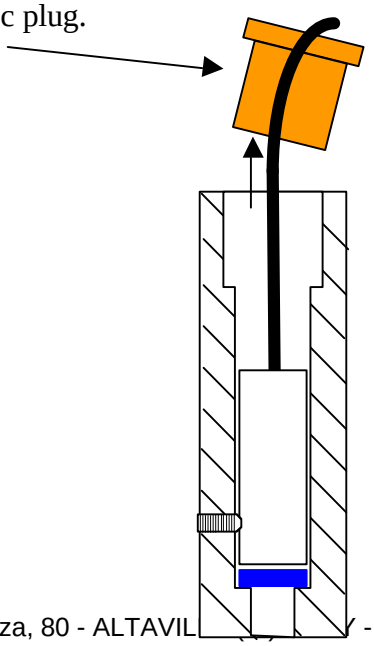
Optic Exit Power: Equal or less than 5 Mw. This feature is useful to identify the degree of danger when the beam has been directly pointed at the eyes. Our laser belongs to Class 3A; therefore, it must **not** be directly pointed towards the eye unless a person is wearing specific safety glasses. The laser should not be dangerous to the eyes when the beam is reflected off of another surface; nevertheless, we suggest to customers not to fix their eyes at the reflecting beam.

Wavelength of Laser Module: 635 or 670 nm (nanometre). A laser is a beam of light. In it, there is a visible spectrum comprised of the colours found in a rainbow---violet, blue, green, yellow, red, etc. Each colour has its own wavelength. Both the wavelengths of 635 nm and 670 nm create the colour red, for example. The 635 nm wavelength is shorter, but more powerful. The 670 nm wavelength is longer, but less powerful. Therefore, with our pointing systems, if a customer wants a STRONG LINE/CROSS, he needs a 635 laser module. If a customer wants a WEAK LINE/CROSS, he needs a 670 laser module.

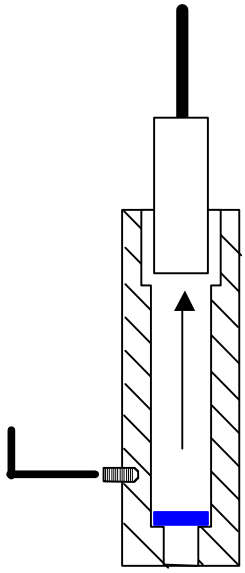
Diameter of Laser Beam: Adjustable. It means that the laser beam can be made a precise diameter even if the pointer is moved to a higher or lower place than before. In other words, the standard adjustment made by CCEA is 15 cm (centimetre) from the surface. It has to be adjusted again if it is set up above or below 15 cm.

How to Adjust the Laser Beam:

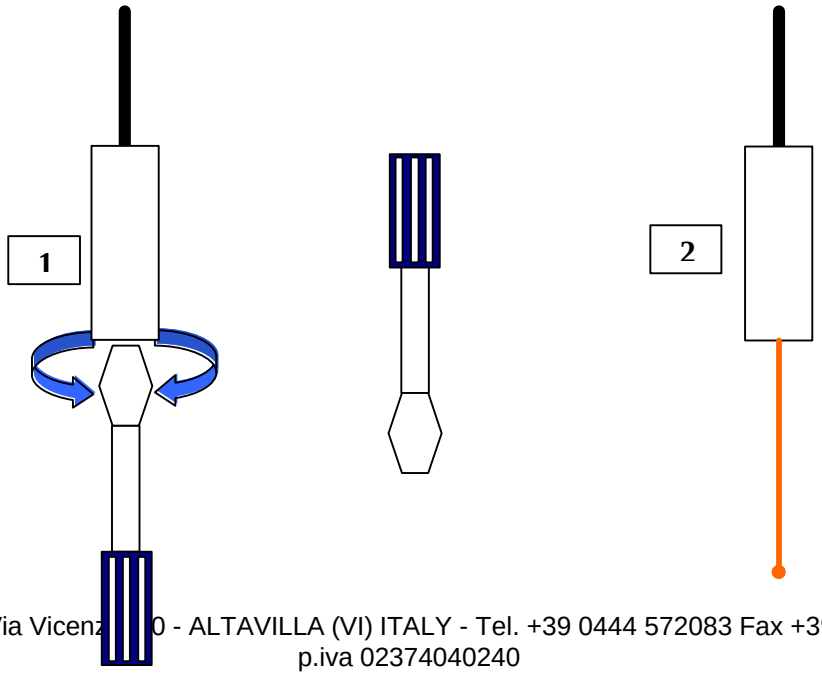
1. Make sure laser is switched off.
2. Determine the exact distance from the surface (tolerance +/- 10%).
3. Attach the pointer at the selected distance.
4. Remove the plastic plug.



5. Using a hexagonal key, turn the screw which holds the laser module inside counter-clockwise. Remove the laser module from the sheath (see drawing).



6. Hold the laser module with one hand at the distance from the surface where the pointing system has already been attached. This will create the reference point needed for checking the laser beam diameter and for making adjustments if necessary. With a screwdriver, turn the screw holding the lens in place clockwise or counter-clockwise (drawing #1).The lens is set in the bottom of the laser module where the laser beam is emitted. Turn on the laser and check that a very small, precise dot is seen on the surface (drawing #2). If it is not, turning the screw clockwise or counter-clockwise will make the laser beam the correct diameter.



7. Put the module back into the sheath. If using a DOT pointing system, this is all that is necessary to adjust the laser beam. If using a CROSS or LINE pointing system, check that the cross or line now being created is thin and clear with precise definition. It should not look blurry, shadowy, or thick. If it does, repeat steps 5 and 6 again. One more step is needed for adjusting the LINE system. Once the module has been put back into the sheath, rotate the laser either clockwise or counter-clockwise to achieve the thinnest line possible.
8. Once the laser module has been adjusted, reverse steps 4,5, and 6 and the pointing system is now ready for use.

Cable: Standard measurement is 1,5 metres with jack on the top. Upon request, cable can be lengthened to a total of 2 metres.

Brackets: Two options:

- Item 16 can be mounted vertically or horizontally. This bracket is recommended if frequent positioning changes are not needed.
- Item 34 can be set in any position due to its swivelling ball joint movement. This bracket is recommended when frequent positioning changes are needed.

Power Supply Unit

Technical features:

- Dimension of the box 95 x 75 x 55 millimetres
- Power in 230 volts (electricity needed for power supply unit)
  110 volts can be supplied upon request.
- Power out 3 volts (power supplied to the laser module)
- Maximum tension absorbed 5 watts (this data is useful for an engineer or electrician if, for instance, the equipment is to become an integral part of a machine or other equipment)
- Cable 1,50 metres in length – Italian plug

The power supply unit produces 3 stabilized volts as to guarantee the maximum life of the laser module (mentioned above). It can consecutively supply energy up to two laser pointers. It has a balanced on/off switch and a warning light to indicate whether the system is on or off.

I hope this report may help you. If further information is needed, feel free to call our distributor directly.

Stefano Celsan

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