

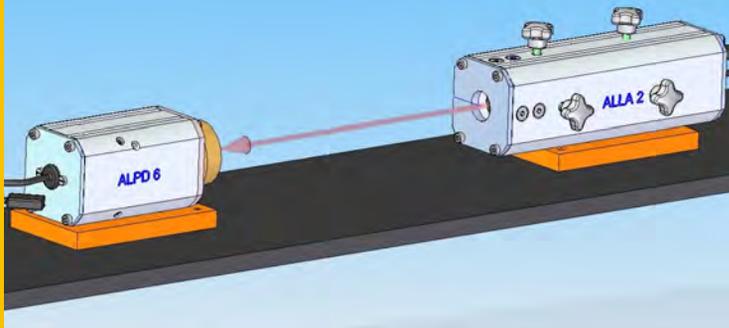
ALPD6 & ALLA2a - complete measuring system for straightness measurement

It is a simple and cheap laser measuring system including **ALPD6** position detector and **ALLA2a** adjustable laser. Basic package is configured for straightness measurements (it is suitable for checking lathe beds, bed ways or other linear devices) and position measurements (it is suitable for deformation measurements of large machines and large structures).

Position detector ALPD6 and ALLA2f laser module, makes a system suitable for e.g. lathe shaft - fixed/travelling stay untrue check(or adjustment) or lathe shaft axis - bed ways parallelism check(adjustment). It is also suitable for various coaxial measurements. Up to 25 measurements per second and graphical representation of measured values gives very good information when is our measuring system used for adjusting procedures on machines or structures.



System ALPD6/ALLA2 (aluminium version)
Both devices mounted on magnetical plates



Real system
ALPD6/ALLA2
steel version



Special measuring devices:

For concrete measuring procedures (defined by customer) we normally developing, producing and calibrating a special measuring devices.

*Please contact us with your measuring/adjusting problem and we will try to help you
(mail: alab.medek@email.cz; subject like "measuring problem")*

Basic informations:

Position detector ALPD6 is developed as a small and simple device. It detects a position of center of gravity of light track on the screen in real time (25 times per second). This position is recorded in the computer in both axes and it is shown in the graphs. Detector with added software allows to measure straightness, flatness, angular rotation or deformations of large structures. Saved data can be exported into .csv file for MS Excel or OpenOffice. ALPD6 is suitable for the checking measurements and also for the adjusting procedures when the realtime position record is suitable.

Parameters of ALPD6 :

Accuracy of position detection	± 0.01 mm
Minimal detectable difference:	0.002 mm
Screen diameter	$\varnothing 22$ mm
Real accuracy (when detector is used e.g. in the industry)	± 0.02 mm / 10m (it depends on ambient conditions and stability of laser)
For measurements is needed:	PC or Notebook with winXP/ win7pro, ult***, USB2.0 interface (2 ports) *** in some computer configurations is "XP mode" requested

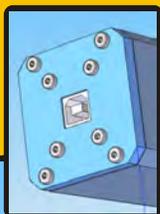
Mechanical parameters os ALPD6:

The case of ALPD6 can be made from steel or aluminium. Steel case is manufactured as high-precision box with grinded surfaces (like a gauge) It is suitable when the detector is repeatedly used in something like assembly jig (lathe chuck...) during adjusting procedure.

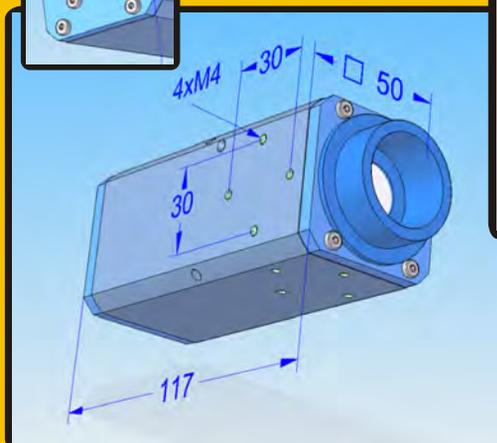
The detector in aluminium case is more lighter than steel detector. Small weight of it is suitable when detector is mounted by magnetical somewhere on the measured machine (it is developed for deformations measurements on large strucures/machines).

Both types of case (steel/aluminium) can be made with or without removable USB cable. Configuration with removable cable is a bid expensive, but offer more comfortable handling (cable is plugged to the detector after installation). When detector is normally used in the plant the destruction of the cable is possible. If the cable is damaged or destructed the exchange of it is very simple (it is a standard USB 2.0 cable - type A).

Main advantage of the detector with fixed cable is size and weight. It is our smallest and lightest detector.



Basic
dimensions:



ALPD6
Steel
version



ALLA 2

Basic informations:

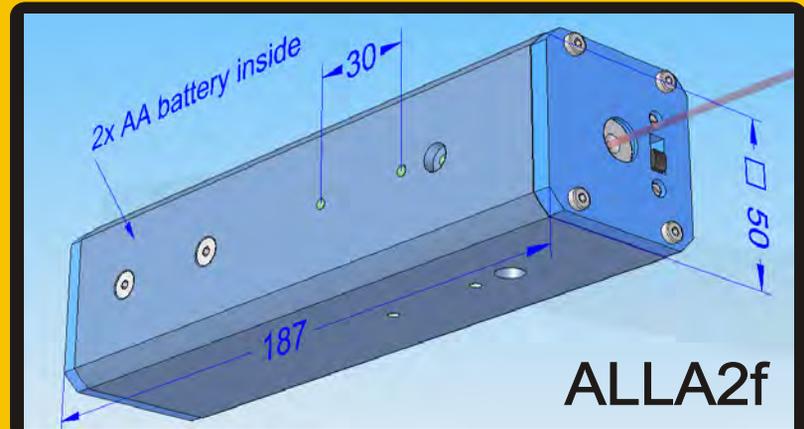
ALLA2 is simple semiconductor laser developed for measurements with detector ALPD6.

In this time we developed two types of ALLA2:

ALLA2f:

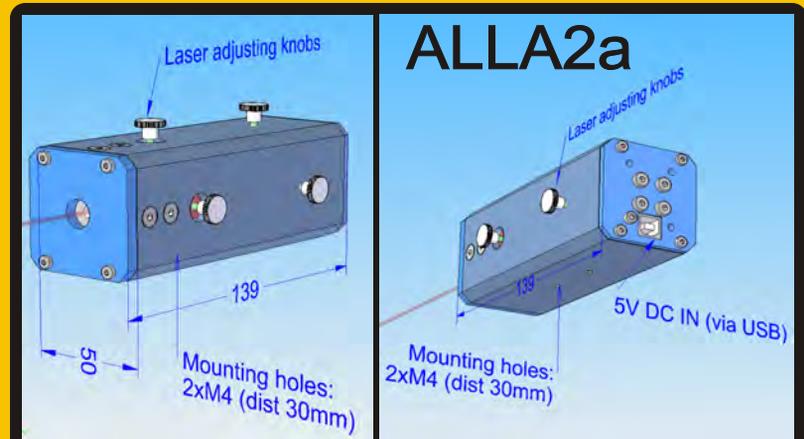
This type of laser is battery powered and it has adjusted and fixed laser beam into the case. The beam can be adjusted as parallel with outer surfaces of the case of detector (precision of adjustment: $\pm 0.01/2000\text{mm}$).

This device is suitable for measurements when laser must be mounted in the something like a chuck or jig. When laser is inserted, the beam is parallel with axis of chuck/jig. Here we're recommending the steel case of the laser.



ALLA2a:

ALLA2a is an USB powered adjustable laser. The device was developed especially for straightness measurements. After laser mounting, the beam can be adjusted to be parallel with a part of measured machine. For laser adjustment is developed one part of measuring software of ALPD6.



Mechanical parameters os ALLA2:

The case of ALLA2 can be made from steel or aluminium like detector ALPD6. It has the similar reasons. Next reason is following:

Laser beam of ALLA2F is adjusted as parallel with surfaces of the case. Steel case is more durable than aluminium and the adjustment of laser beam is fixed better.

The real ALLA2f

