

Title (en)
3D MOTION DISTANT MEASURING DEVICE FROM A SINGLE REFERENCE POINT

Title (de)
ENTFERNUNGSMESSEINRICHTUNG MIT DREIDIMENSIONALER VERSCHIEBUNG UM EINEN EINZELNEN REFERENZPUNKT

Title (fr)
DISPOSITIF DE MESURE DE DISTANCE D'UN MOUVEMENT TRIDIMENSIONNEL A PARTIR D'UN SEUL POINT DE REFERENCE

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Application
EP 00988998 A 20001215

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Abstract (en)
[origin: WO0144834A2] The present invention is relative to a measuring device of the components of the displacement of one point in three perpendicular directions. Base of the instrument, a Laser distance measuring system, that, measuring the phase shift of the ray refracted by a refracting element placed on the point of measure, supplies with millimetric precision the variation of the distance between laser source and refractive element. The conventional instrument is not however able to measure displacements in a plane perpendicular to the laser ray. The present invention instead, adding to the refractive element a video camera, mounted with the refractive element on a plate motorised by two step motors, and a second light source parallel to the first laser to generate on the video camera sensor a light spot, allows, analysing the digital image, to maintain always the refractive element centred with respect to the ray, acting on the step motors. Since the displacements necessary to maintain the image centred are exactly opposite to those of which the instrument is displaced, the simple recording of the movements supplies the two perpendicular components. A second possible configuration is also presented, characterised by an inferior sensitivity to x, y displacements.

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