

Patent title:	Device for measuring a distance and method for measuring said distance
FBK center:	CMM
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Application(s):	Factory automation, Logistics automation, Safety engineering
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Abstract:	Measuring device (1) suited to measure the distance (d) of a reference object (O), configured so that it performs a plurality of measuring operations (A _i) in succession and comprising emission means (2) suited to emit a light radiation (R), receiving means (3) comprising a sensitive area (31) which is sensitive to the light radiation (R) and which is provided with a number M of sensitive units (4), each one of the sensitive units (4) being configured to generate an electrical signal (S), a first processing unit (5) comprising N _e processing elements (6), each one of said N _e processing elements (6) being configured to receive the electrical signal (S) for determining the time of impact (t) of a photon (F) on the sensitive units (4) and for calculating the value of said distance (d). The measuring device (1) comprises a second processing unit (7) configured to receive the electrical signals (S), processing the electrical signals (S) in such a way as to select a number N _u of sensitive units (4) impacted by the photons (F), associating each one of the N _u sensitive units (4) to one of the N _e processing elements (6), in such a way that, at the moment of the successive measuring operation (A _{i+1}), the distance (d) is determined by each one of the N _u sensitive units (4) selected.