

Title (en)

LIGHT-BASED RANGING DEVICE DESIGN AND OPERATION

Title (de)

ENTWURF UND BETRIEB EINER LICHTBASierten ENTfERNUNGSMESSVORRICHTUNG

Title (fr)

CONCEPTION ET FONCTIONNEMENT DE DISPOSITIF DE T  L  METRIE    BASE DE LUMI  RE

Publication

EP 4090995 A1 20221123 (EN)

Application

EP 20710125 A 20200306

Priority

EP 2020056039 W 20200306

Abstract (en)

[origin: WO2021175440A1] The present disclosure refers to a light-based ranging device (500) which comprises a light source (502), a light detector (504), a reflecting body (506), and a driving unit (508). The light source is configured to illuminate an object (510) using one or more light beams. The light detector is configured to detect the one or more light beams reflected from the object. The reflecting body has a principal axis of symmetry (512) and comprises at least three reflecting faces around the principal axis of symmetry. Each of the at least three reflecting faces is configured to reflect each of the one or more light beams first towards the object and then towards the light detector. The driving unit is configured to rotate the reflecting body about a rotation axis (514). The rotation axis is tilted relative to the principal axis of symmetry by a non-zero tilting angle. The non-zero tilting angle is defined in such a way that the one or more light beams are reflected by each of the at least three reflecting faces towards the object in at least partly diverging directions. With this configuration of the light-based ranging device, one may take advantage of the misalignment between the principal axis of symmetry of the reflecting body and the rotation axis of the reflecting body, since this misalignment provides diverging directions of the light beams from each of the at least three reflecting faces, thereby increasing the total number of scanning points.

IPC 8 full level

G01S 7/48 (2006.01); **G01S 7/481** (2006.01); **G01S 7/4863** (2020.01); **G01S 17/42** (2006.01); **G01S 17/89** (2020.01); **G02B 26/10** (2006.01)

CPC (source: EP)

G01S 7/4814 (2013.01); **G01S 7/4817** (2013.01); **G01S 7/4863** (2013.01); **G01S 17/42** (2013.01); **G02B 26/12** (2013.01); **G01S 17/89** (2013.01)

Citation (search report)

See references of WO 2021175440A1

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