

Title (en)

ULTRASONIC SENSOR FOR DETECTING VALUABLE DOCUMENTS AND METHOD FOR PRODUCING SAID SENSOR

Title (de)

ULTRASCHALLSENSOR ZUR ERFASSUNG VON WERTDOKUMENTEN UND VERFAHREN ZUR HERSTELLUNG DESSELBEN

Title (fr)

CAPTEUR À ULTRASONS DESTINÉ À DÉTECTER DES DOCUMENTS DE VALEUR ET SON PROCÉDÉ DE FABRICATION

Publication

**EP 2721588 B1 20190911 (DE)**

Application

**EP 12730801 A 20120619**

Priority

- DE 102011104981 A 20110620
- EP 2012002583 W 20120619

Abstract (en)

[origin: CA2833634A1] A description is given of an ultrasonic sensor for detecting a valuable document transported through a detection region of the ultrasonic sensor, comprising an ultrasonic transmitter and an ultrasonic receiver, which are arranged such that ultrasound from the ultrasonic transmitter can be emitted into the detection region and ultrasound of the ultrasonic transmitter coming from the detection region can be received by the ultrasonic receiver, comprising a driving and evaluating circuit for driving the ultrasonic transmitter and for detecting and evaluating signals of the ultrasonic receiver and a circuit carrier, on which the driving and evaluation circuit, the ultrasonic transmitter and the ultrasonic receiver and conductor tracks electrically connecting the driving and evaluation circuit to the first and second ultrasonic transducers are held, wherein the circuit carrier is embodied in a U-shaped fashion and has two limb sections connected to one another, and the ultrasonic transmitter is held on one of the two limb sections and the ultrasonic receiver is held on the other of the two limb sections. Furthermore a method for producing the ultrasonic sensor is specified.

IPC 8 full level

**G07D 7/08** (2006.01); **G01N 29/11** (2006.01); **G01N 29/22** (2006.01)

CPC (source: EP US)

**G07D 7/08** (2013.01 - EP US); **G10K 11/18** (2013.01 - US); **Y10T 29/49117** (2015.01 - EP US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**DE 102011104981 A1 20121220**; AU 2012272189 A1 20131121; AU 2012272189 B2 20160331; CA 2833634 A1 20121227; CA 2833634 C 20190423; EP 2721588 A1 20140423; EP 2721588 B1 20190911; US 2014140178 A1 20140522; US 9607605 B2 20170328; WO 2012175192 A1 20121227

DOCDB simple family (application)

**DE 102011104981 A 20110620**; AU 2012272189 A 20120619; CA 2833634 A 20120619; EP 12730801 A 20120619; EP 2012002583 W 20120619; US 201214126927 A 20120619