

Title (en)
INDUCTIVE PROXIMITY SWITCH BASED ON A TRANSFORMER COUPLING FACTOR PRINCIPLE

Title (de)
INDUKTIVER NÄHERUNGSSCHALTER BASIEREND AUF DEM KOPPLUNGSFAKTOR-PRINZIP

Title (fr)
DECLENCHEUR DE PROXIMITE INDUCTIF BASE SUR LE PRINCIPE DU COEFFICIENT DE COUPLAGE DE TRANSFORMATEUR

Publication
EP 1847019 A1 20071024 (DE)

Application
EP 06706739 A 20060208

Priority

- EP 2006001097 W 20060208
- DE 102005005831 A 20050208
- DE 102005012892 A 20050317

Abstract (en)
[origin: WO2006084675A1] The invention relates to an inductive proximity switch, preferably ferriteless, comprising at least one transmission coil (S), an oscillator circuit, at least two reception coils (E1, E2, Ei, En) located in the magnetic alternating field of the transmission coil, wherein the transmission and reception coils are adjacently placed on a board, and an evaluation circuit connected to said transmission and reception coils for evaluating the receiving signal of the reception coil when a target approaches the proximity switch. The reception coils and the transmission coil consist of at least one polygonally, annularly or elliptically-shaped winding and delimit the correspondingly shaped coil surface, respectively, wherein the transmission coil is surrounded by the first reception coil (E1), which is surrounded by the second reception coil (E2), which is in turn optionally surrounded by the third or n-th peripheral reception coil (Ei,En) or the reception coils are surrounded by the transmission coil in such a way that the coil surface delimited by the respective external coil covers all coil surfaces delimited by the other coils which are arranged more inwardly and the transmission coil is remote from the nearest adjacent reception coil without the transmission and/or reception coil overlapping.
[origin: WO2006084675A1] An inductive proximity switch has at least two reception coils (E1,E2) consisting of at least one annular or elliptical winding, and the transmitting coil (S) is peripherally surrounded by the first receiving coil (E1) and this on its side is surrounded peripherally by the second receiving coil (E2). The first receiving coil is surrounded by the second receiving coil, so that with parallel vertical projection onto the coils, the coil surfaces of all the other coils are completely overlapped.

IPC 8 full level
H03K 17/95 (2006.01); **G01V 3/10** (2006.01); **H02K 3/26** (2006.01)

CPC (source: EP US)
H03K 17/9505 (2013.01 - EP US); **H03K 17/9525** (2013.01 - EP US); **H03K 2017/9527** (2013.01 - EP US)

Citation (search report)
See references of WO 2006084675A1

Citation (examination)

- JP 2002148003 A 20020522 - OMRON TATEISI ELECTRONICS CO
- JP S59190718 A 19841029 - OMRON TATEISI ELECTRONICS CO
- DE 19700753 A1 19980716 - SCHOTT GLASWERKE [DE]
- US 2002039023 A1 20020404 - JAGIELLA MANFRED [DE], et al

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2006084675 A1 20060817; EP 1847019 A1 20071024; US 2008204118 A1 20080828; US 7463020 B2 20081209

DOCDB simple family (application)
EP 2006001097 W 20060208; EP 06706739 A 20060208; US 88404006 A 20060208