

Title (en)  
Electromagnetic relay

Title (de)  
Elektromagnetisches Relais

Title (fr)  
Relais électromagnétique

Publication  
**EP 2328165 B1 20130814 (EN)**

Application  
**EP 10014802 A 20101119**

Priority  
JP 2009267988 A 20091125

Abstract (en)  
[origin: EP2328165A1] An electromagnetic relay 10 includes an auxiliary yoke 17 extending along an upstanding portion 27 of a primary yoke 14 and magnetically connected to the upstanding portion 27 through a magnetic connection portion 41, a permanent magnet 18 arranged between the upstanding portion 27 of the primary yoke 14 and the auxiliary yoke 17 and a magnetic saturation portion 21 provided in the upstanding portion 27. The electromagnetic relay 10 is designed to allow the magnetic flux of the permanent magnet 18 to flow through the upstanding portion 27, an operation piece 15, the magnetic connection portion 41 and the auxiliary yoke 17 when a second attracted portion 32 is spaced apart from one end portion of an iron core 12 with the conductive coil 24 kept not excited, and to flow through the upstanding portion 27, the operation piece 15, the iron core 12, a base end portion 26, the magnetic connection portion 41 and the auxiliary yoke 17 when the second attracted portion 32 is attracted to the end portion of the iron core 12 with the conductive coil 24 kept not excited.

IPC 8 full level  
**H01H 51/27** (2006.01); **H01H 50/26** (2006.01); **H01H 50/42** (2006.01); **H01H 50/64** (2006.01); **H01H 51/22** (2006.01)

CPC (source: EP)  
**H01H 51/27** (2013.01); **H01H 50/26** (2013.01); **H01H 50/42** (2013.01); **H01H 50/643** (2013.01); **H01H 51/2236** (2013.01)

Citation (examination)  
• EP 0836212 B1 20040324 - TYCO ELECTRONICS AUSTRIA GMBH [AT]  
• JP 2006196362 A 20060727 - MATSUSHITA ELECTRIC WORKS LTD

Cited by  
CN107910168A; CN110556269A; CN114156122A; EP2701172A1; US9070501B2

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)  
**EP 2328165 A1 20110601**; **EP 2328165 B1 20130814**; CN 102074418 A 20110525; CN 102074418 B 20131023; JP 2011113754 A 20110609; JP 5446780 B2 20140319; TW 201131610 A 20110916; TW I430316 B 20140311

DOCDB simple family (application)  
**EP 10014802 A 20101119**; CN 201010559523 A 20101123; JP 2009267988 A 20091125; TW 99140189 A 20101122