

Title (en)

Secure switching device and modular error-proof control system

Title (de)

Sichere Schalteinrichtung und modulares fehlersicheres Steuerungssystem

Title (fr)

Dispositif de couplage sécurisé et système de commande modulaire protégé contre les erreurs

Publication

**EP 2239752 B2 20220330 (DE)**

Application

**EP 10158367 A 20100330**

Priority

DE 102009018140 A 20090408

Abstract (en)

[origin: EP2239752A1] The device (10) has a switching element e.g. relay to perform switching process of electrical load using control signal generated by a control system (20). A detection apparatus detects the switching process amount. The detection apparatus includes a memory apparatus (28) for permanent storage of switching process amount. The memory apparatus has an associated section to identify the faults in the memory apparatus. An independent claim is included for modular failsafe control system for switching ON/OFF states of electrical load.

IPC 8 full level

**H01H 47/00** (2006.01)

CPC (source: EP US)

**H01H 47/002** (2013.01 - EP US); **H01H 3/001** (2013.01 - EP US)

Citation (opposition)

Opponent :

- DE 10296915 T5 20040429 - OMRON TATEISI ELECTRONICS CO [JP]
- DE 19804442 C2 20030109 - LEUZE ELECTRONIC GMBH & CO [DE]
- DE 10020075 C2 20020321 - PILZ GMBH & CO [DE]
- DE 3505818 A1 19860821 - LICENTIA GMBH [DE]
- EP 0193732 A1 19860910 - LICENTIA GMBH [DE]
- WO 2005104155 A1 20051103 - SIEMENS AG [DE], et al
- DE 102006036384 A1 20070329 - CONTINENTAL TEVES AG & CO OHG [DE]
- WO 2006060264 A2 20060608 - ROBERTSHAW CONTROLS CO [US], et al
- DE 20203165 U1 20020627 - DEWERT ANTRIEBS SYSTEMTECH [DE]
- JP H09265884 A 19971007 - TOSHIBA HOME TECH KK
- US 2580304 A 19511225 - KRAFT JOSEPH K

Designated contracting state (EPC)

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 SE SI SK SM TR

DOCDB simple family (publication)

**EP 2239752 A1 20101013; EP 2239752 B1 20130306; EP 2239752 B2 20220330**; DE 102009018140 A1 20101021; HK 1145369 A1 20110415; US 2010259862 A1 20101014; US 8274771 B2 20120925

DOCDB simple family (application)

**EP 10158367 A 20100330**; DE 102009018140 A 20090408; HK 10111765 A 20101216; US 75325410 A 20100402