Title (en)

APPARTUS AND METHOD OF SAFELY TURNING ON AND OFF AN ELECTRIC CONSUMER COMPRISING A MICROCONTROLLER

Title (de)

SICHERHEITSSCHALTVORRICHTUNG UND VERFAHREN ZUM SICHEREN EIN- UND AUSSCHALTEN EINES ELEKTRISCHEN VERBRAUCHERS MIT EINEM MIKROKONTROLLER

Title (fr)

DISPOSITIF DE COMMUTATION DE SÉCURITÉ ET PROCÉDÉ DE MISE EN CIRCUIT ET HORS CIRCUIT SÉCURISÉE D'UNE CHARGE ÉLECTRIQUE AVEC UN MICROCONTRÔLEUR

Publication

EP 1982105 B1 20170308 (DE)

Application

EP 07703034 A 20070125

Priority

- EP 2007000644 W 20070125
- DE 102006007264 A 20060210

Abstract (en)

[origin: WO2007090524A1] The invention relates to a safety switching apparatus (10) and to a method for safely turning on and off an electric consumer (22), in particular a system (16) operating in an automated manner. The apparatus (10) comprises a first port (32) for a first signalling element (18), a second port (34) for a second signalling element (20), and a first switching device (40) which is coupled to a first switching trip (36), and a second switching device (42) which is coupled to a second switching trip (38). A time-monitoring device (60) activates the first and second switching trips (36, 38) only when there is less than a predetermined maximum time duration (T_{max}) between an actuation of the signalling elements (18, 20). The activation of the switching trips (36, 38) in turn causes the switching devices (40, 42) to be switched on, and hence the consumer (22) to be turned on. The activation of the switching trips (36, 38) requires the switching-on of first and second switching elements (48, 52) which are each arranged in series with the switching trips (36, 38). In one aspect of the invention, the time monitoring involves providing at least a first microcontroller (56) which is designed to detect actuations of the signalling elements (18, 20) and to switch on the switching elements (48, 52) if there is less than the maximum time duration (T_{max}).

IPC 8 full level

F16P 3/20 (2006.01)

CPC (source: EP US)

H01H 47/005 (2013.01 - EP US); H01H 2300/054 (2013.01 - EP US)

Cited by

CN110077271A

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 2007090524 A1 20070816; CN 101400939 A 20090401; CN 101400939 B 20130522; DE 102006007264 B3 20071025; DE 102006007264 C5 20140618; EP 1982105 A1 20081022; EP 1982105 B1 20170308; ES 2620403 T3 20170628; JP 2009526509 A 20090716; JP 5089611 B2 20121205; US 2009058197 A1 20090305; US 7898118 B2 20110301

DOCDB simple family (application)

EP 2007000644 W 20070125; CN 200780008656 A 20070125; DE 102006007264 A 20060210; EP 07703034 A 20070125; ES 07703034 T 20070125; JP 2008553648 A 20070125; US 18825908 A 20080808