

Title (en)

Digital commutating and regulating apparatus, in particular time switch.

Title (de)

Digital arbeitendes Schalt- bzw. Regelgerät, insbesondere Schaltuhr.

Title (fr)

Dispositif de commutation et de régulation numérique, en particulier interrupteur horaire.

Publication

**EP 0338371 B1 19941019 (DE)**

Application

**EP 89106312 A 19890410**

Priority

- DE 3812674 A 19880417
- DE 8805033 U 19880417
- DE 8805204 U 19880417
- DE 8805205 U 19880417
- DE 8805206 U 19880417

Abstract (en)

[origin: EP0338371A2] In a switching and regulating apparatus, in particular time switch, having a digital display (LCD unit (20)), operator panel (18) for coded keys, electronic subassemblies, circuit-breaking devices, if necessary relays for controllable, selectable and displayable functions and operating conditions of outputs that are to be controlled or switched preselectively and have means for power supply and connection, a body (21) having electronics and an assembly for power supply and connection is equipped capable of being joined to a foot part in the usual fashion, to be precise is constructed as an upper part (22) having a keypad (103), an LCD unit (20), connectors (220), an associated circuit board (142) and cover plate (201), side walls and at least one stop as a single-piece holding unit, the combination of these modules as subgroups satisfying the conditions for an unobstructed view of selected parts and the reliable, perfect functioning of handy operability when, alternatively, a) the LCD unit and printed circuit board with connectors are mounted in a preloaded locking, self-retaining and self-adjusting fashion without auxiliary components using a press fit by packing in the keypad, cover plate, LCD unit and printed circuit board by means of a springy metal sheet supported resiliently on the keypad or b) non-active functional elements are safeguarded against operating errors by means of covering housing parts or by means of a selected arrangement of the keys, so that the selected functions of said keys are assigned in a manner proof against confusion through a geometrical and structural arrangement. <IMAGE>

IPC 1-7

**G04G 15/00**

IPC 8 full level

**G04G 15/00** (2006.01); **H01H 13/702** (2006.01); **H05K 5/00** (2006.01)

CPC (source: EP)

**G04G 15/00** (2013.01); **H01H 13/702** (2013.01); **H01H 2219/012** (2013.01); **H01H 2223/014** (2013.01); **H01H 2229/034** (2013.01); **H01H 2231/016** (2013.01); **H01H 2231/028** (2013.01)

Cited by

EP1416344A1; FR2871924A1; EP0947836A3; US6178359B1

Designated contracting state (EPC)

AT CH DE ES FR GB IT LI

DOCDB simple family (publication)

**EP 0338371 A2 19891025**; **EP 0338371 A3 19920610**; **EP 0338371 B1 19941019**; AT E113129 T1 19941115; DE 58908509 D1 19941124; ES 2063776 T3 19950116

DOCDB simple family (application)

**EP 89106312 A 19890410**; AT 89106312 T 19890410; DE 58908509 T 19890410; ES 89106312 T 19890410