

Title (en)

PROTECTIVE SWITCH ELEMENT TO BE ADDED TO AN ON/OFF SWITCH APPARATUS BUILT AS A ROTARY SWITCH

Publication

EP 0043406 B1 19831221 (DE)

Application

EP 81102572 A 19810406

Priority

- DE 3025013 A 19800702
- DE 8017765 U 19800702

Abstract (en)

[origin: EP0043406A1] 1. Protective switch element (1; 101; 201) for attachment to an appliance on/off switch (4; 104; 204) designed as a rotary switch and with a bimetallic strip (14; 114; 214) which lies in the current path of the appliance switch and which can be transferred by means of the current flow from a stretched position into a bent position, with a coupling element (19; 119; 219) which is designed as a pivot pin (5; 105; 205) and which projects out of the appliance attachment side (3; 103; 203) of the protective switch element (1; 101; 201) approximately at right angles in an axial direction for engagement into the appliance switch (4; 104; 204) and which is connected fixed against rotation to the coaxially extending actuating shaft (18; 118; 218) of the appliance switch, and with a protective switch contact (15; 115; 215) which interacts with an engagement device (20; 120; 220) and can be transferred as result of rotation of the pivot pin (5; 105; 205) against spring force into an engagement position and as a result of the bending of the bimetallic strip (14; 114; 214) into a release position and which consists of a fixed contact (16; 116; 216) and of a moving contact (17; 117; 217) guided in an axial direction, characterised in that the pivot pin (5; 105; 205) is provided with a transmission disc (22; 122; 222) which is fastened centrally and at right angles to the axis of rotation of the pivot pin (5; 105; 205) to the inner end (21; 121; 221) of the latter facing away from the appliance switch (4; 104; 204) and which has, on its free end face (25; 125; 225) facing away from the appliance switch (4; 104; 204), at least one radially aligned pit-shaped recess (26; 126; 226) which extends through the disc centre (27; 127; 227) and which is limited on both sides by projections (28; 128; 228) projecting in an axial direction from the free end face (25; 125; 225) and provided with sloping faces (29; 129; 229), in that the engagement device (20; 120; 220) consists essentially of an engagement shackle (30; 130; 230) guided with a loose sliding fit in an axial direction and having at least one engagement arm (31; 131; 231) which projects essentially in an axial direction from the free end face (25; 125; 225) of the transmission disc (22; 122; 222) and which is provided at its free end (32; 132; 232) with an engagement hook (33; 133; 233) which projects essentially at right angles from the engagement arm (31; 131; 231) and which, in the engagement position, engages behind an engagement projection (39; 139; 239) formed on the housing (2; 102; 202) of the protective switch element (1; 101; 201), in that the engagement shackle (30; 130; 230) has, at its end facing the transmission disc (22; 122; 222), a roof-shaped engagement edge (34; 134; 234) which, in the unlocking position, is located in the pit-shaped recess (26; 126; 226) of the transmission disc (22; 122; 222) and which, when it is rotated, slides on the sloping faces (29; 129; 229) of the projections (28; 128; 228), in that the engagement shackle (30; 130; 230) is provided with a pressure nose (38; 138; 238) which is offset radially outwards in relation to the engagement edge (34; 134; 234) and is directed away from the transmission disc (22; 122; 222) in an axial direction and which is located on the same side of the engagement shackle (30; 130; 230) as the engagement hook (33; 133; 233) and stresses the side of the moving contact (17; 117; 217) facing the transmission disc (22; 122; 222) against the axially directed spring force, and in that located on the engagement shackle (30; 130; 230) is an angle lever (45; 145; 245) which projects essentially in a radial direction from the side of the engagement shackle (30; 130; 230) located opposite the engagement hook (33; 133; 233) and the radially outer end of which is stressed in the direction of the transmission disc (22; 122; 222) by the moving end (43; 143; 243) of the bimetallic strip (14; 114; 214).

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