

Title (en)
Electromagnetic ultraswift actuator without springs

Title (de)
Ultraschneller Elektromagnetantrieb ohne Feder

Title (fr)
Actionneur électromagnétique ultrarapide sans ressorts

Publication
EP 0955645 B1 20021120 (EN)

Application
EP 99108019 A 19990423

Priority
IT GE980035 A 19980506

Abstract (en)
[origin: EP0955645A2] Electromagnetic ultraswift actuator without springs including a movable part (1) and a statoric element (7) coaxial to the movable part (1), being the movable part (1) free to axially move inside the statoric element (7) , a permanent magnet (5) having its magnetic poles (6) following each other along the longitudinal axis of the movable part (1), being the movable part (1) kept in a provided position through the magnetic field generated by the permanent magnet (5) and suitable stroke limiters (2, 3, 12, 13, 14, 16), and a statoric winding (9) coaxial to the permanent magnet (5) and excitable so that it interacts with the permanent magnet (5) magnetic field, characterized in that the magnetic field generated in the winding (9) excites the statoric part (7) polarizing it so that the permanent magnet (5) reacts together with the movable part (1) connected to it moving towards another provided position, so that the axial translation of the permanent magnet (5) and consequently of the movable part (1) is respectively caused: in one direction, just by spontaneous attraction (active magnet/passive ferromagnetic circuit) eventually reinforced through an auxiliary electromagnetic excitation. in the opposite direction, substantially by repulsion between polarities (active magnet/active electromagnetic circuit) having the same sign. <IMAGE>

IPC 1-7
H01F 7/16; F02M 51/06

IPC 8 full level
H01F 7/16 (2006.01); **H01F 7/122** (2006.01)

CPC (source: EP)
H01F 7/1615 (2013.01); **H01F 7/122** (2013.01)

Cited by
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EP 0955645 A2 19991110; **EP 0955645 A3 20000816**; **EP 0955645 B1 20021120**; AT E228265 T1 20021215; DE 69903991 D1 20030102; DE 69903991 T2 20030410; IT 1304369 B1 20010315; IT GE980035 A0 19980506; IT GE980035 A1 19991106

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