Title (en)

REDUNDANT DIRECT DRIVE WITH ELECTRO-KINETIC ENERGY BUFFERING

Title (de)

REDUNDANTER DIREKTANTRIEB MIT ELEKTRO-KINETISCHER ENERGIEPUFFERUNG

Title (fr)

ENTRAINEMENT DIRECT REDONDANT A ACCUMULATION D'ENERGIE ELECTROCINETIQUE

Publication

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Application

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Abstract (en)

[origin: WO02082629A1] The invention relates to a gearless direct drive exhibiting high inertia that is intended for transportation purposes and based on high-poled three-phase A.C. motors. A drive group comprising a three-phase current main motor (1)with a high pole number and a three-phase current auxiliary motor (2) with a lower pole number, having preferably two poles that are electrically connected to one another but are mechanically decoupled, are fed by a common actuator (8). The pole number and the continuous torque of the main motor (1) are bigger than the pole number and the continuous torque of the auxiliary motor (2), wherein the rotor (5) of the auxiliary motor is fitted with a flywheel (6) and operates with a higher number of revolutions than the main motor (1). In case of an error or if necessary, the actuator (8) is disconnected with a switch, wherein the main motor (1) and the auxiliary motor (2) remain electrically coupled so that the auxiliary motor (2) converts the kinetic energy of the flywheel (6) into electric energy and supplies the latter to the main motor (1). The main motor transforms said electric energy once again into mechanical energy, whereby braking acceleration of the rotor (3) and the load coupled thereto (4) are reduced below an admissible maximum value. The invention also relates to a method for redundant operation of said drive groups. The invention can be applied in the construction of cable or belt-bound transportation systems, especially cable cars, ski lifts, escalators and moving walkways with gearless direct drives and with predetermined maximum brake acceleration.

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