Title (en)

SWITCH DEVICE WITH IMPROVED PERMANENT MAGNETIC ARC EXTINCTION

Title (de)

SCHALTGERÄT MIT VERBESSERTER PERMANENTMAGNETISCHER LICHTBOGENLÖSCHUNG

Title (fr)

APPAREIL DE COMMUTATION AVEC EXTINCTION D'ARC À MAGNÉTISME PERMANENT AMÉLIORÉE

Publication

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Application

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Abstract (en)

[origin: WO2018172030A1] The invention relates to a switch device with at least one contact point and a permanent magnetic arc blowing device which is paired with the contact point. The arc blowing device has a first lateral pole plate, a second lateral pole plate, a central pole plate arranged therebetween, and at least one first permanent magnet for generating a magnetic blow-out field. The at least one first permanent magnet is arranged and is in contact with at least one of the pole plates either directly or via a magnetic conductor such that a first magnetic field region of the blow-out field is provided between the first lateral pole plate and the central pole plate and such that a second magnetic field region of the blow-out field is provided between the second lateral pole plate and the central pole plate, wherein the magnetic field lines of the first magnetic field region are aligned opposite the magnetic field lines of the second magnetic field region. The blow-out field additionally has a transition region which connects the first magnetic field region and the second magnetic field region together, and the magnetic field lines are aligned identically in each case starting from the first magnetic field region and the second magnetic field region toward the contact point in the transition region such that a switching arc produced within the transition region upon opening the contact point is conducted either into the first magnetic field region or into the second magnetic field region depending on the current direction from the contact point and in both cases is blown away in the same direction from the contact point in said region. According to the invention, the arc blowing device has at least one second permanent magnet (15) as an auxiliary magnet, and the auxiliary magnet is arranged in the direct vicinity of the contact point (7.1) such that at least one section of the magnetic field (17) of the auxiliary magnet (15) amplifies the blow-out field in the transition region.

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