

Title (en)  
CIRCUIT BREAKER AND METHOD

Title (de)  
SCHUTZSCHALTGERÄT UND VERFAHREN

Title (fr)  
DISJONCTEUR ET PROCÉDÉ

Publication  
**EP 4377983 A1 20240605 (DE)**

Application  
**EP 22773474 A 20220905**

Priority  
• DE 102021210831 A 20210928  
• EP 2022074609 W 20220905

Abstract (en)  
[origin: WO2023052046A1] The invention relates to a circuit breaker for protecting an electric low-voltage circuit, comprising: - a housing with at least one grid-side connection and a load-side connection, and - a mechanical separating contact unit which is connected to an electronic interruption unit in series, wherein - the mechanical separating contact unit is paired with the load-side connection, and the electronic interruption unit is paired with the grid-side connection, - the mechanical separating contact unit can be switched by opening contacts in order to prevent a current flow or by closing the contacts for a current flow in the low-voltage circuit, - as a result of semiconductor-based switch elements, the electronic interruption unit can be switched to a high-ohmic state of the switch elements in order to prevent a current flow or to a low-ohmic state of the switch elements for a current flow in the low-voltage circuit, - the level of the current in the low-voltage circuit, in particular between the grid-side phase conductor connection and the load-side phase conductor connection, is ascertained, - a process for preventing a current flow in the low-voltage circuit is initiated if current thresholds and/or current/time thresholds are exceeded, and - while the contacts of the mechanical separating contact unit are closed and the electronic interruption unit is switched to a low-ohmic state, the electronic interruption unit is switched to a high-ohmic state for a first duration in order to check the functionality of the circuit breaker.

IPC 8 full level  
**H01H 9/54** (2006.01)

CPC (source: EP)  
**H01H 9/547** (2013.01); **H01H 9/548** (2013.01)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**DE 102021210831 A1 20230330**; CN 118020130 A 20240510; EP 4377983 A1 20240605; WO 2023052046 A1 20230406

DOCDB simple family (application)  
**DE 102021210831 A 20210928**; CN 202280065405 A 20220905; EP 2022074609 W 20220905; EP 22773474 A 20220905