

Title (en)  
CIRCUIT BREAKER DEVICE AND METHOD

Title (de)  
SCHUTZSCHALTGERÄT UND VERFAHREN

Title (fr)  
DISPOSITIF ET PROCÉDÉ DE DISJONCTEUR

Publication  
**EP 4356410 A1 20240424 (DE)**

Application  
**EP 22786350 A 20220920**

Priority  
• DE 102021210810 A 20210928  
• EP 2022075994 W 20220920

Abstract (en)  
[origin: WO2023052177A1] The invention relates to a circuit breaker device for protecting an electrical low-voltage circuit, said circuit breaker device comprising: - the function of ascertaining the level of the current of the low-voltage circuit, - a mechanical separating contact unit which can be operated by a mechanical handle such that an opening function of contacts can be switched in order to prevent a current flow or a closing function of the contacts can be switched for a current flow in the low-voltage circuit, - an electronic interruption unit, which is connected to the mechanical separating contact unit in series on the circuit side and which, as a result of semiconductor-based switch elements, 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, - wherein the ascertained level of the current is compared with current thresholds and, if the current thresholds are exceeded, a process for preventing the current flow in the low-voltage circuit is initiated. According to the invention, when the contacts of the circuit breaker device are closed and the electronic interruption unit is in the low-ohmic state, the electronic interruption unit is switched to the high-ohmic state when a voltage-reduced state of the low-voltage circuit is initiated. After the voltage-reduced state is discontinued, the electronic interruption unit is switched back to the low-ohmic state.

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 102021210810 A1 20230330**; CN 118043921 A 20240514; EP 4356410 A1 20240424; WO 2023052177 A1 20230406

DOCDB simple family (application)  
**DE 102021210810 A 20210928**; CN 202280065256 A 20220920; EP 2022075994 W 20220920; EP 22786350 A 20220920