

Title (en)  
INTEGRATED POWER REGULATOR AND METHOD

Title (de)  
INTEGRIERTER LEISTUNGSREGLER UND VERFAHREN

Title (fr)  
RÉGULATEUR DE COURANT INTÉGRÉ ET PROCÉDÉ ASSOCIÉ

Publication  
**EP 3914986 A4 20220309 (EN)**

Application  
**EP 20767041 A 20200306**

Priority  
• US 201962814629 P 20190306  
• CN 2020078111 W 20200306

Abstract (en)  
[origin: WO2020177757A1] An integrated power regulator comprises a plurality of power modules connected in parallel between a positive terminal and a negative terminal of a power source. Each power module of the plurality of power modules comprises a plurality of power conversion cells connected in parallel between the positive terminal and the negative terminal of the power source. A first power conversion cell and a second power conversion cell of the plurality of power conversion cells are configured to operate in two different operating phases. A third power conversion cell and a fourth power conversion cell of the plurality of power conversion cells are configured to operate in a same operating phase.

IPC 8 full level  
**G05F 1/10** (2006.01); **H02M 1/00** (2006.01); **H02M 1/14** (2006.01); **H02M 3/158** (2006.01)

CPC (source: EP)  
**H02M 1/0032** (2021.05); **H02M 1/14** (2013.01); **H02M 3/1584** (2013.01); **H02M 3/1586** (2021.05); **Y02B 70/10** (2013.01)

Citation (search report)  
• [XYI] US 2010194361 A1 20100805 - HARDMAN PETER THOMAS [US], et al  
• [YA] WO 2015108613 A1 20150723 - ABB TECHNOLOGY AG [CH], et al  
• [YA] US 2015277460 A1 20151001 - LIU PEI-HSIN [US], et al  
• [A] US 2015015219 A1 20150115 - ISHINO TSUTOMU [JP], et al  
• [A] US 2018337602 A1 20181122 - ZHOU XIN [US], et al  
• [A] US 2013293207 A1 20131107 - WEI JIA [US], et al  
• See also references of WO 2020177757A1

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

DOCDB simple family (publication)  
**WO 2020177757 A1 20200910**; CN 113424127 A 20210921; CN 113424127 B 20230106; EP 3914986 A1 20211201; EP 3914986 A4 20220309

DOCDB simple family (application)  
**CN 2020078111 W 20200306**; CN 202080010949 A 20200306; EP 20767041 A 20200306