

Title (en)  
METHOD FOR OPERATING AN INTERNAL COMBUSTION ENGINE, AND INTERNAL COMBUSTION ENGINE CONFIGURED TO CARRY OUT SUCH A METHOD

Title (de)  
VERFAHREN ZUM BETREIBEN EINER BRENNKRAFTMASCHINE UND BRENNKRAFTMASCHINE, EINGERICHTET ZUR DURCHFÜHRUNG EINES SOLCHEN VERFAHRENS

Title (fr)  
PROCÉDÉ DE FONCTIONNEMENT D'UN MOTEUR À COMBUSTION INTERNE ET MOTEUR À COMBUSTION INTERNE CONÇU POUR METTRE EN OEUVRE UN TEL PROCÉDÉ

Publication  
**EP 4348026 A1 20240410 (DE)**

Application  
**EP 22730789 A 20220525**

Priority  
• DE 102021205361 A 20210526  
• EP 2022064202 W 20220525

Abstract (en)  
[origin: WO2022248550A1] The invention relates to a method for operating an internal combustion engine (1) having at least one combustion chamber (3), to which at least one injector (5) is assigned, and at least one knocking sensor (7), wherein a) a first signal from the at least one knocking sensor (7) is captured in a first temporal measurement window for a first load point and for an energization period, assigned to a pre-injection, of the at least one injector (5) for at least one operating cycle of a first combustion chamber (3), wherein b) a first first evaluation point is calculated from the at least one first signal by means of a first metric (S8), wherein c) a second signal from the at least one knocking sensor (7) is captured in the first temporal measurement window for the first load point and for a second energization period, assigned to the pre-injection, of the at least one injector (5) for at least one operating cycle of the first combustion chamber (3), wherein d) a second first evaluation point is calculated from the at least one second signal by means of the first metric (S8), wherein e) an optimum energization period is determined as the optimum of the first first evaluation point and the second first evaluation point, wherein f) the optimum energization period for the first load point and the first combustion chamber (3) is stored and/or used.

IPC 8 full level  
**F02D 41/24** (2006.01); **F02D 35/02** (2006.01); **F02D 41/00** (2006.01); **F02D 41/14** (2006.01); **F02D 41/40** (2006.01)

CPC (source: EP US)  
**F02D 35/027** (2013.01 - EP US); **F02D 41/1406** (2013.01 - EP US); **F02D 41/2451** (2013.01 - EP); **F02D 41/247** (2013.01 - EP US); **F02D 41/403** (2013.01 - EP US); **F02D 41/0085** (2013.01 - EP); **Y02T 10/40** (2013.01 - EP)

Citation (search report)  
See references of WO 2022248550A1

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 102021205361 A1 20221201**; CN 117396669 A 20240112; EP 4348026 A1 20240410; US 2024084749 A1 20240314; WO 2022248550 A1 20221201

DOCDB simple family (application)  
**DE 102021205361 A 20210526**; CN 202280037769 A 20220525; EP 2022064202 W 20220525; EP 22730789 A 20220525; US 202318516352 A 20231121