Title (en)

INTERNAL-COMBUSTION ENGINE STARTER WITH AN INTEGRATED ELECTRONIC POWER CIRCUIT

Publication

EP 0363933 B1 19920226 (DE)

Application

EP 89118905 A 19891011

Priority

DE 3834855 A 19881013

Abstract (en)

[origin: EP0363933A1] Motor-vehicle starter with an integrated electronic power circuit which is provided with an electromagnetic switch for switching the starter current on and off. The electromagnetic switch is in operative connection with the ignition lock of the motor vehicle. Integrated into the starter there is, according to the invention, an electronic power circuit via the output current of which the electromagnetic switch is directly controlled. Leading from the ignition lock to the electronic power circuit there is thus now only one control lead, which can be of a design with a small cross-section. The ignition lock now only need a small control current to switch, as a result of which it can be of structurally simple design. An advantageous further development envisages the addition of an electronic control unit which carries out the actuation of the electromagnetic switch as a function of current operating states of the vehicle. Thus, for example, switching on of the starter current can be prevented if preheating in a diesel vehicle has not yet ended, the vehicle is moving, a gear has been engaged or the engine is running.

IPC 1-7

F02N 11/08

IPC 8 full level

F02N 11/08 (2006.01); F02B 3/06 (2006.01)

CPC (source: EP)

F02N 11/087 (2013.01); F02B 3/06 (2013.01); F02N 11/103 (2013.01)

Cited by

FR2809138A1; EP0526985A3; DE19705587A1; DE19705587C2; US7156063B2; WO03081026A1

Designated contracting state (EPC) DE ES FR GB IT SE

DOCDB simple family (publication)

EP 0363933 A1 19900418; EP 0363933 B1 19920226; DE 3834855 A1 19900419; DE 58900868 D1 19920402; ES 2030252 T3 19921016

DOCDB simple family (application)

EP 89118905 A 19891011; DE 3834855 A 19881013; DE 58900868 T 19891011; ES 89118905 T 19891011