

Title (en)

EXPENDABLE EBW FIRING MODULE FOR DETONATING PERFORATING GUN CHARGES

Title (de)

VERBRAUCHBARER ELEKTRISCHER BRÜCKENZÜNDERMODUL ZUR DETONATION VON PERFORATORLADUNGEN

Title (fr)

MODULE DE MISE A FEU CONSOMMABLE A FIL EXPLOSE PERMETTANT DE FAIRE DETONER DES CHARGES DE PERFORATEUR

Publication

**EP 0694157 B1 20010822 (EN)**

Application

**EP 94928579 A 19940913**

Priority

- US 9410275 W 19940913
- US 12117793 A 19930913

Abstract (en)

[origin: WO9524608A1] An expendable EBW firing module (22) for use with a perforating gun system including a source of DC power (40) at the surface and supplied to the system through a wireline cable (18) interconnected therebetween, without requiring any additional perforating gun hardware. The module includes a high-voltage multiplier circuit (32) for multiplying a first voltage related to the voltage received from the power source (40) by a predetermined multiple to generate a second DC voltage capable of detonating an EBW detonator (22), a firing circuit (39) for receiving the second voltage from the multiplier for application to the detonator (22), and an electronic safety circuit (35) interposed between the power source (40) and the multiplier (32) for preventing unintentional activation of the multiplier (32) by stray voltages present at the wellsite. The module is adapted for mounting directly in the interior housing of the perforating gun system adjacent the detonator without protection from the perforating gun charge blast and wherein the module is substantially destroyed upon activation of the detonator.

IPC 1-7

**F42C 21/00**; **F42B 3/13**

IPC 8 full level

**E21B 43/1185** (2006.01); **F42D 1/05** (2006.01)

CPC (source: EP)

**E21B 43/1185** (2013.01); **F42D 1/05** (2013.01)

Cited by

US11808093B2; US11713625B2; US11988049B2; US11952872B2; WO2016089398A1; US11299967B2; US11428081B2; US10273788B2; US10975671B2; US11225848B2; US11814915B2; US11753889B1; US11648513B2; US11021923B2; US11339614B2; US11634956B2; US11946728B2; US7284601B2; US7284489B2; US7461580B2; US7975592B2; US8607864B2; US10900333B2; US11283207B2; US11542792B2; US11608720B2; US11661823B2; US11788389B2; US11929570B2

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

**WO 9524608 A1 19950914**; CA 2149154 A1 19950914; CA 2149154 C 20041123; DE 69428038 D1 20010927; DE 69428038 T2 20020411; EP 0694157 A1 19960131; EP 0694157 A4 19960221; EP 0694157 B1 20010822; NO 313566 B1 20021021; NO 951851 D0 19950510; NO 951851 L 19950707

DOCDB simple family (application)

**US 9410275 W 19940913**; CA 2149154 A 19940913; DE 69428038 T 19940913; EP 94928579 A 19940913; NO 951851 A 19950510