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- (71) Applicant: **THIRD EQUATION LTD** [GB/GB]; 5 New Street Square, London Greater London EC4A 3TW (GB).
- (72) Inventor; and
(71) Applicant (for MN only): **SCOBIE, Andrew John** [AU/GB]; 5 New Street Square, London Greater London EC4A 3TW (GB).
- (72) Inventors: **BOUALLAGA, Kamel**; 5 New Street Square, London Greater London EC4A 3TW (GB). **POCIASK, Patryk Wladyslaw**; 5 New Street Square, London Greater London EC4A 3TW (GB). **GAN, Leong Kit**; 5 New Street Square, London Greater London EC4A 3TW (GB). **XU, Xiao**; 5 New Street Square, London Greater London EC4A 3TW (GB).
- (74) Agent: **DAVIES COLLISON CAVE PTY LTD**; 1 Nicholson Street, Melbourne, Victoria 3000 (AU).
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(54) Title: ELECTRIC POWER CONVERTER FOR A PHOTOVOLTAIC ENERGY SOURCE

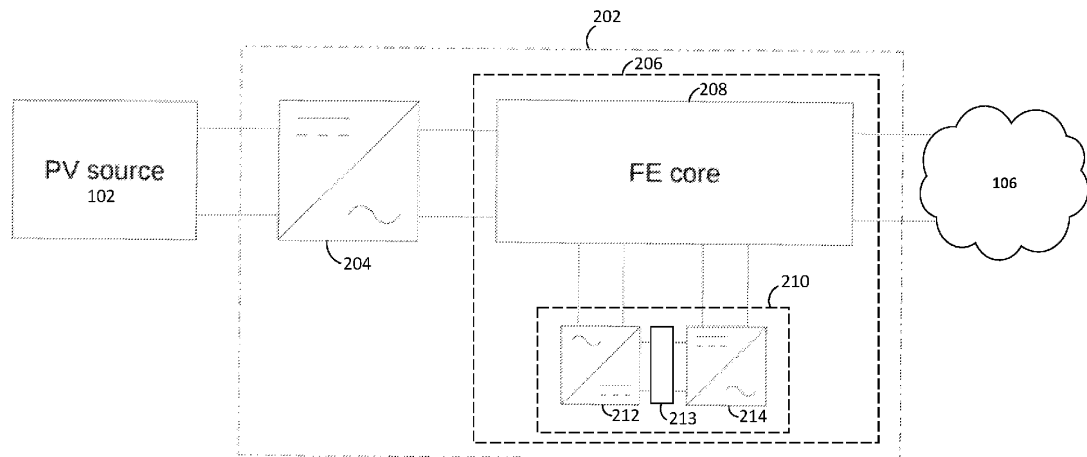


Figure 2

(57) Abstract: An electric power converter for a photovoltaic energy source, including: an inverter to receive a dynamically changing DC signal generated by the photovoltaic energy source and to generate a corresponding dynamically changing AC signal having a frequency substantially equal to a mains supply frequency; and an electromagnetic apparatus, including: a magnetic core and a plurality of windings around the magnetic core. The windings include: one or more input windings to receive the dynamically changing AC signal as an AC input; one or more output windings to provide an AC output signal; and control windings configured to control electromagnetic coupling between the input and output windings; and a control component configured to dynamically control electrical currents through the control windings so that the electrical characteristics of the AC output signal are relatively constant despite the dynamically changing AC signal and include a fundamental frequency equal to the mains supply frequency.

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