

CONTROL METHOD FOR DIRECT POWER CONVERSION DEVICE

ABSTRACT

A converter (3) performs full-wave rectification on a single-phase voltage (V_{in}),
5 thus outputting a rectified voltage (V_{rec}) across DC power supply lines (LL, LH). An
inverter (5) receives the rectified voltage (V_{rec}) and then supplies a three-phase AC
current (I_u , I_v , I_w) to an inductive load (6). Between the DC power supply lines (LL,
LH) is connected a charge and discharge circuit (4). The charge and discharge circuit
(4) includes a buffer circuit (4a) and a boost circuit (4b). The buffer circuit (4a)
10 includes a series connection between a capacitor (C_4) and a switch (S_c). The boost
circuit (4b), which may be configured by a boost chopper, includes a switch (S_l), a reactor
(L_4) and a diode (D_{40}). The charge and discharge circuit (4) provides and receives part
of pulsations of the power input to the converter (3) between the DC power supply lines
(LL, LH).

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Figure 1