



(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0360205 A1**
Viola et al. (43) **Pub. Date: Nov. 10, 2022**

(52) **U.S. Cl.**
CPC *H02P 27/08* (2013.01); *H02P 25/04*
(2013.01)

(57) **ABSTRACT**

A method and an apparatus for starting single-phase induction motors (SPIM) is disclosed. The apparatus use a rectifier and a DC-AC power converter, to replace the capacitor required in the startup of SPIM, providing high starting torque and eliminating stator overcurrents. The system uses a contactor to connect the SPIM directly to the AC voltage source once the nominal speed is reached. The disclosed method uses synchronization techniques to assure seamless transition of the SPIM from the power converter to the AC voltage source.

(22) Filed: **May 10, 2021**

Publication Classification

(51) **Int. Cl.**
H02P 27/08 (2006.01)
H02P 25/04 (2006.01)

