MULTI-PHASE LINEAR MOTOR HAVING AN INTEGRATED COIL ASSEMBLY AND METHOD FOR FORMING THE INTEGRATED COIL ASSEMBLY

Abstract

An integrated coil assembly (10), a multi-phase linear motor having the integrated coil assembly (10) and a method (100) for forming the integrated coil assembly (10) are described. The integrated coil assembly (10) has multi-phase coils with each multi-phase coil (20) having a number of coil loops based upon the number of electrical phases of current required by the multi-phase linear motor. The coil loops of different multi-phase coils are interweaved at two opposing portions (11,12) and are substantially parallel at two other opposing portions (13,14). In the method (100), different wire dispensers wind coil loops for different electrical phase for each multi-phase coil (20). However, the same wire dispenser winds coil loops that are for the same electrical phase for different multi-phase coils (20). The coil loops for each multi-phase coil (20) are wound before the coil loops of another multi-phase coil (20) are wound.

FIG. 1 accompanies this abstract.