

# (19) United States

## (12) Patent Application Publication (10) Pub. No.: US 2022/0361350 A1 JUNG et al.

Nov. 10, 2022 (43) **Pub. Date:** 

(2013.01); F16C 11/04 (2013.01)

#### (54) ELECTRONIC DEVICE INCLUDING HINGE **STRUCTURE**

(71) Applicant: Samsung Electronics Co., Ltd., Gyeonggi-do (KR)

Inventors: Iksu JUNG, Gyeonggi-do (KR); Jinho LIM, Gyeonggi-do (KR)

Appl. No.: 17/735,566 (21)

(22) Filed: May 3, 2022

### Related U.S. Application Data

(63) Continuation of application No. PCT/KR2022/ 005905, filed on Apr. 26, 2022.

#### (30)Foreign Application Priority Data

(KR) ...... 10-2021-0058354 May 6, 2021

### **Publication Classification**

(51) **Int. Cl.** H05K 5/02 (2006.01)H05K 5/00 (2006.01)F16C 11/04 (2006.01) (52) U.S. Cl. CPC ...... H05K 5/0226 (2013.01); H05K 5/0017

(57)**ABSTRACT** 

An electronic device includes a first and second housing, a sensor module, and a hinge. The hinge includes first and second rotary members, a first arm rotatable about a first arm shaft, operating in conjunction with rotation of the first rotary member, wherein a rotational axis of the first arm shaft is different from the first axis of rotation, a second arm rotatable about a second arm shaft, operating in conjunction with rotation of the second rotary member, wherein a rotational axis of the second arm shaft is different from the second axis of rotation, and a magnet assembly disposed on at least one of the first arm member or the second arm member such that at least a portion of the magnet assembly faces the sensor, wherein a distance between the magnet and the sensor is changeable based on rotation of the first and second housing.

