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(19) **United States**(12) **Patent Application Publication**  
**Bdeir**(10) **Pub. No.: US 2022/0377890 A1**(43) **Pub. Date: Nov. 24, 2022**(54) **MODULAR ELECTRONIC BUILDING  
SYSTEMS WITH MAGNETIC  
INTERCONNECTIONS AND METHODS OF  
USING THE SAME**(71) Applicant: **SPHERO, INC.**, Boulder, CO (US)(72) Inventor: **Aya Bdeir**, New York, NY (US)(21) Appl. No.: **17/662,533**(22) Filed: **May 9, 2022****Related U.S. Application Data**

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(57)

**ABSTRACT**

Electrical connectors, electrical modules, and systems are provided. In one aspect, an electrical connector includes a housing defining a side surface, an electrical conductor supported by the housing and including an engagement portion proximate the side surface of the housing. The engagement portion is adapted to engage another electrical conductor of another electrical connector. The connector also includes a magnet supported by the housing proximate the side surface of the housing, a projection extending from the side surface of the housing, and a receptacle defined in the side surface of the housing. In other aspects, an electrical module includes at least one of these electrical connectors. In further aspects, a system includes a plurality of these modules and the modules are selectively couplable together.

