Intelligent Storage and Transfer Station and System

ABSTRACT

The present invention provides an intelligent storage and transfer station and system including a profile frame, as well as a docking mechanism, a conveying mechanism and a storing mechanism arranged on the profile frame. The profile frame is provided with a receiving chamber for entering and exit of robots. The receiving chamber is provided with a chamber entering port. The docking mechanism includes a hatch door and a hatch door driving assembly, and the hatch door driving assembly is configured to drive the hatch door to open or close the chamber entering port. The storing mechanism includes a number of carrier chambers. The conveying mechanism is configured to transfer the carrier boxes between a number of carrier chambers, and between the storing mechanism and the chamber entering port. Under the action of the docking mechanism, the present invention enables the robot to be accurately parked at a preset position of the receiving chamber, and the carrier boxes can be transferred between a number of carrier chambers, and between the storing mechanism and the chamber entering port, thereby orderly managing a number of carrier boxes and increasing the number of stored carrier boxes via modular expansion, correspondingly improving the delivery efficiency of the robotic delivery system.

Fig. 2