

ROBOTIC ARM FOR AN AUTOMATED WAREHOUSE

ABSTRACT OF THE DISCLOSURE

The present invention provides a robotic arm for an automated warehouse that includes: a robotic arm placed at an access side of a storage shelf, the robotic arm comprising: two X-axis linear servo platforms respectively placed at a bottom and a top of the access side, the two X-axis linear servo platforms being parallel to each other, the two X-axis linear servo platforms respectively having two X-axis linear servo sliders that are driven by a X-axis servo motor to move concurrently in either direction along a X-axis; a Y-axis linear servo platform having two ends respectively connected to the two X-axis linear servo sliders, the Y-axis linear servo platform being perpendicular to the two X-axis linear servo platforms, the Y-axis linear servo platform having a Y-axis linear servo slider slidably disposed thereon that is driven by a Y-axis servo motor to move in either direction along a Y-axis; a horizontal frame having an end connected to the Y-axis linear servo slider, and another end that extends to a right side or a left side and forms an extending end; a Z-axis and R-axis linear servo platform having a R-axis rotary mount and a telescopic rod, wherein the R-axis rotary mount is disposed on the extending end of the horizontal frame, the rotation axis of the R-axis rotary mount being parallel to the direction of movement of the Y-axis linear servo platform, the R-axis rotary mount being driven in rotation by a R-axis servo motor, the telescopic rod having an end connected to the R-axis rotary mount and another end connected to a fetch mechanism, the telescopic rod having an extension and retraction axis perpendicular to a rotation axis of the R-axis rotary mount, the telescopic rod being driven by a Z-axis servo motor to move in either direction along a Z-axis.

FIG. 1