Driving control system of injection molding machine
introduction

ZS300A/ZS400A/ZS500A
Injection molding machine and injection molding robot

Injection molding machine: the plasticizing system, injection system, the clamping system and transmission system of plastic injection molding equipment, injection molding machine.

Injection molding machine and injection molding machine manipulator is a collaborative division of labor, technology closely related.

Injection molding machine manipulator: controlled by the control system from the injection molding machine mold, remove the injection molding machine products.
Simple action process between Injection molding machine and injection molding manipulator

1. Manipulator Mobile standby position
2. Open mode signals are not in place
   - Wait mold position signal
   - Robot extract
   - (Output port) output clamp jaw movement, vacuum suction action
   - The robot Back to the film outside
   - Opening detection (open continuously detected until it is closed)
3. Detected
   - Place the product to a designated location
4. Not detected
   - Alarm
Current Situation of hand injection molding machinery industry

Since the injection robot can greatly improve productivity and reduce production costs, to stabilize and improve the quality of injection molded plastic products to avoid losses due to human error caused the operation. Therefore, the role of injection manipulator injection molding production is becoming increasingly important.

Currently robot type is relatively simple, and mostly used for pickup. With the development of injection molding industry, the future will be full of robot used for feeding, mixing, detection, automatic handling dies, recycling waste and other processes, but also towards diversification, intelligent direction.
ADTECH control system of injection molding machine manipulator

- **Driving control system**
- **AC 220V**
- **Control signal**
- **Handheld device**
- **PC communication**
- **System updating**
- **Parameter setting**
- **State-monitoring**
- **Injection molding machine manipulator**
The features of injection molding machine manipulator control system

- Integrated drive control mode, more reliable and easy to install, cost savings, saving labor
- Operation Touch screen + button, making the operation more user-friendly and comprehensive
- Pressure line wiring, wiring is simple, reliable, no external relay
- Control, drive, IO integrated, space-saving, highly efficient and stable
- Friendly interface, easier to learn and train, powerful, flexible application
- Superior motion control performance, vibration suppression
The advantages of injection molding machine manipulator control system

- Compatible with the market various types of encoder and motor (<1KW) (ADTECH MRMG series), replace strong.
- Support for multi-turn absolute encoder (ADTECH MRMH series), you can save the zero limit switches, reducing alignment, improve stability.
- Support subroutine call, specified line jump, while running side changes and other features that make the complex process and control becomes simple.
- Accuracy and vibration suppression functions ensure that meet Embedding pieces, cut products, simple assembly of precision and resolution of vibration problems.
- Integrated IO board and relay (IO input 48, IO output 48), a compact integrated design, make wiring more simple and beautiful, without re-engineering and installation of power distribution equipment.
- True color screen, touch buttons and make the operation more simple and convenient.
The features of injection molding machine manipulator control system

- Wiring boards and terminals
  - Input, output, relay output, terminals, convenient and beautiful traces
- Manual and automatic key switch operating status lights display, manual button, manual operation Touch Dual

**Wiring boards and terminals**

**FlexPendant**
The features of injection molding machine manipulator control system

Auto run interface

- Program line edit
- Magnification adjustment
- Data Display
- Technical Parameter
- Status change

<table>
<thead>
<tr>
<th>File Name</th>
<th>X1</th>
<th>X2</th>
<th>Y1</th>
<th>Y2</th>
<th>Z</th>
<th>Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000. JXS</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

- TOP
  - Start: X1: 500.00 Speed: 100 Dly: 0
  - Start: Y1: 0.00 Speed: 100 Dly: 0

- L-P
  - Start: Z: 0.00 Speed: 100 Dly: 0

- L-L
  - Start: X2: 0.00 Speed: 100 Dly: 0
  - Start: Y2: 0.00 Speed: 100 Dly: 0

- N-L
  - Start: C: Horizon
  - Stack: Select1, Dly: 0ms

- N-P
  - Wait Mold Open

- BOTM
  - MoveLine: Y1: 200.00 Speed: 100 Dly: 0
  - MoveLine: X1: 0.00 Speed: 100 Dly: 0

Editing buttons: Edit, DELE, FLOW, STEP.

Status bar: Date: 13-12-16, Time: 05:42:39
The features of injection molding machine manipulator control system

Teaches interface

- Editing functions
- Program Operation
- Quick Settings
- Program teaches
The features of injection molding machine manipulator control system

Jog interface

- Jog functions
- Switch Operation
- Step functions
The features of injection molding machine manipulator control system

File interface

- Parameter back-up
- File operation
- USB read and write
The features of injection molding machine manipulator control system

Monitoring interface

- O Diagnosis
- Debug Port
- Input and output can be displayed simultaneously
The Configuration Table of injection molding machine manipulator control system

<table>
<thead>
<tr>
<th>Model</th>
<th>ZS300A</th>
<th>ZS400A</th>
<th>ZS500A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of control axes</td>
<td>3-axis</td>
<td>4-axis</td>
<td>5-axis</td>
</tr>
<tr>
<td>Flex Pendant</td>
<td></td>
<td>ADT-RPB06-C01</td>
<td></td>
</tr>
<tr>
<td>Support Motor type</td>
<td>AC servo motor (support Sanyo, Panasonic, Tamagawa, ADTECH MR / MR MH servo motors, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support Encoder</td>
<td>Incremental, multi-turn absolute value of the formula</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
END！
Thank you！