Multi-Servo AMP with NC/Robot Control Technology provides cost down and high reliability for any precise machines, and it is typically applied for winding, precise cutting, robot control and electric-cam machines.

■ Motion Control
NC/Robot Control
7 axes Interpolation
Multitask
G code  Techno code
auto/manual mode
Direct NC (DNC)
Rich Motion Functions

■ Compact · Cable-less
AC100 ~ 200 v
250w × 150h × 210d

■ Motion Control
■ Multi Servo AMP.
position/velocity loop
AC-servo Max 7 axes

■ AC Servo AMP
Panasonic (MINAS)
TAMAGAWA
50w - 750w

■ Peripheral Device
PC · Touch Screen
PLC · Vision System

■ Input/Output
42 inputs 42 outputs
Max (256/256)

■ NC/ROBOT CONTROL
Winding, precise cutting, robot (SCARA/X Y θ parallel) and electric-cam machines are the most popular application.

■ Winding  ■ Nozzle winding  ■ SCARA ROBOT  ■ Precise Cutting  ■ Electric-cam machine

■ Cost Down
◆ Compact & Embedded software
Multi Axes Motion Amp. is embedded in a machine without making a control box.

◆ Cable-less
Cable and wiring are not necessary. Note: External wiring (motor/IO) is required.

■ Reliability
◆ one module
Motion /Servo/IO control is all in one: Minimum Hardware

■ Profit of Techno precise motion
◆ G code and TECHNO code
Customers can easily determines the type of operations by G code and/or TECHNO code without consulting the special knowledge for servo-control.

◆ Rich Motion Control Functions
On the basis of various experiences, we customize rich functions in order to suite customer's requests.

◆ Confidentiality
We maintain high security and protect customers know-how.
Multi Axes Motion AMP. general outline

<table>
<thead>
<tr>
<th>motion control</th>
<th>Standard: black</th>
<th>Option: blue</th>
<th>Custom: green</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Functions</td>
<td>contouring, acceleration/deceleration, G code /Techno code, 7 axes interpolation circle interpolation, helical interpolation, automatic/manual mode, PC operation machine-panel operation, parameter, internal status, variable management, backlash compensation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rich Motion Functions</td>
<td>macro variable/operation, multitask (8 task) direct nc (DNC), synchronization control, tangent control, parallel axes, spindle control, manual pulse generator, precision position sensor, electric cam, tool length compensation, tool diameter compensation, pith error compensation, form compensation, corner override, winding command</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Options for standard package</td>
<td>winding (spindle/flier/nozzle) robot (SCARA/X Y θ plane, precise cutting, electric cam.</td>
<td></td>
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</tr>
<tr>
<td>custom-made</td>
<td>special coordinate system (special kinematics), role control, injection molding, servo-press, high speed synchronization control,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>input/output</td>
<td>42 inputs, 42 outputs Max (256/256)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>communication</td>
<td>PC • PLC • Touch Panel • Vision System</td>
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</tr>
<tr>
<td>servo amp.</td>
<td>basic position loop, speed loop, current loop</td>
<td></td>
<td></td>
</tr>
<tr>
<td># of axes</td>
<td>Max 7 axes, total 2.5 kw</td>
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<td></td>
</tr>
<tr>
<td>auxiliary function</td>
<td>External Regenerative Resistance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>position sensor</td>
<td>encoder (incremental/absolute), resolver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>servo motor</td>
<td>Panasonic MINAS A 4 50w 100w 200w 400w 750w</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tamagawa</td>
<td>TBL-i 50w 100w 200w 400w 750w</td>
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</tbody>
</table>

Easy set up with standard package.

Standard packages for winding, precise cutting, robot (SCARA/X Y θ parallel) and electric-cam machine are available. How-to DVDs and documents will help to implement the standard package on customer's machine, and it is so easy!

Custom-made

When customer requires special functions which are not available in standard packages, the custom-made is also available. The specific function will be advanced compared to other controllers.

Achievements

winding machine, cutting machine, precision grinder, lathe, dispenser, robot, electric cam, multi axes transfer, equipment of photovoltaic/Flat-panel-display/Semiconductors products, mounter, EDM, molding, high speed synchronization control, multidimensional Measurement

precision cutting  electric cam multi head machine cutting machine milling machine

precision stage multi axes robot servo press direct nc cutting 5 axes CAM

flier winding SCARA robot 3D-digitizer rigid tapping milling /EDM

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