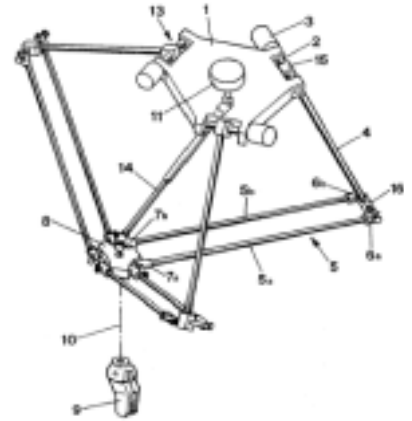




DELTA ROBOT CONTROLLED BY UMAC

The Delta Robot Demo is comprised of the Delta Tau parallel mechanism, actuated by three Delta Tau 3U servo amplifiers and Thingap motors, coupled with 50:1 planetary gearheads. The Kinematics algorithm was easily implemented with Delta Tau's Turbo PMAC controller. It should be emphasized that the Turbo PMAC is acting as a standalone controller in this implementation; no host computer is necessary. The PC is only monitoring the Control via Delta Tau's PMAC HMI software.

The Turbo PMAC is housed in the UMAC (Universal Motion and Automation Controller). UMAC is a modular Turbo PMAC system built with a set of 3U-format Eurocards. A PC/104 computer can be installed inside the UMAC system to allow the user to monitor the robot's status with Delta Tau's PHMI user-interface software.



UMAC

- Up to 32 axes of motion control
- Analog $\pm 10V$, direct digital PWM or pulse and direction (stepper) command signals
- Quadrature, incremental, encoder inputs
- Laser interferometer feedback devices inputs
- Analog feedback inputs
- Sinusoidal encoder feedback input with 4096 interpolation lines
- SSI encoders inputs
- Yaskawa or Mitsubishi absolute encoders inputs
- 16-bit resolver-to-digital converter inputs
- MLDTs feedback inputs
- Thousands of I/O points
- High-Power, sinking, sourcing or OPTO-22 compatible I/O
- Up to 256 analog-to-digital converted inputs (12-bits or 16-bits resolution)
- Stand-alone or host commanded operation
- PC/104, USB, Ethernet or RS-232/422 communication methods supported
- DeviceNet and Profibus protocols supported



UMAC

3U Amp

The UMAC (Universal Motion and Automation Controller) is a modular PMAC system built with a set of 3U-format Eurocards. The configuration of any UMAC system starts with the selection of the PMAC PCU or MACRO fiber optic interface and continues with the addition of the necessary axes boards, I/O boards, communication interfaces (USB, Ethernet, etc.) and any other interface boards selected from the rich variety of available accessories. For example, accessory boards interface with virtually any kind of feedback sensor or to implement almost any kind of communication method with the host computer or external devices.



3U PWM 2-AXIS



Delta Robot

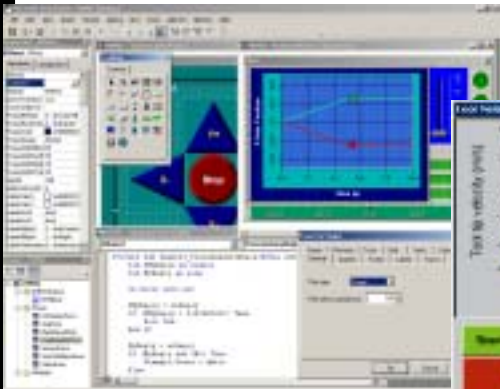
High Speed Pick & Place



Controlled by UMAC



3 Degrees of Freedom
Cartesian X Y Z Translational Motion



PMAC HMI



DELTA TAU
Data Systems, Inc.

Single Source Machine Control

Power // Flexibility // Ease of Use

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