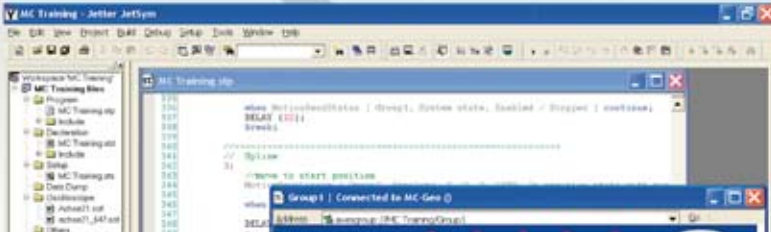
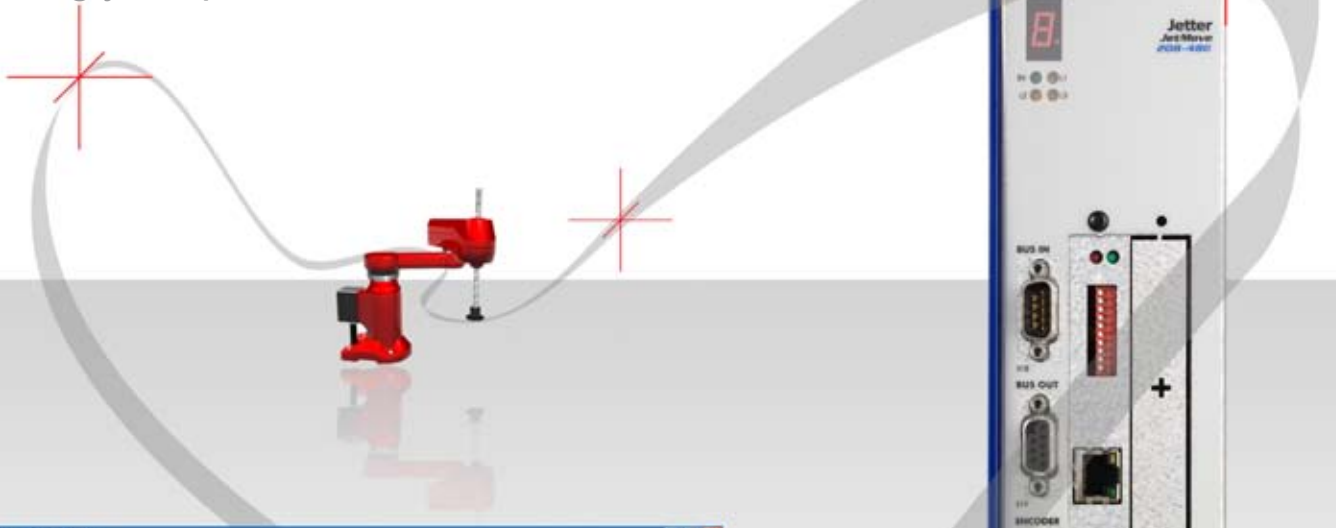


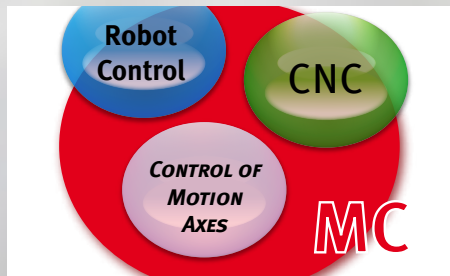
Surprisingly simple...



Motion Control

Motion Control

Motion with Profile

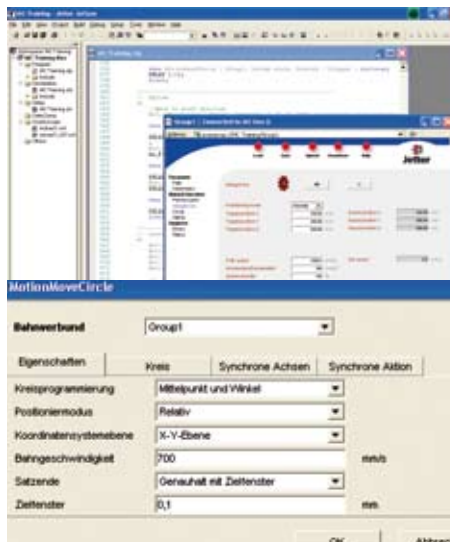


Motion Control

Motion with Profile

The idea behind it all

JetWeb Motion Control (MC) is an axis control system which is integrated into the JetControl controller. It is capable of handling a host of axis functions - starting from simple positioning tasks through to complex multi-axis plants. In practice this means that programming and commissioning of a plant requires only one control system with one programming language which includes all automation functions.



As the classic boundaries between I/O control, operation, networking and drives have been eliminated, the system ensures maximum flexibility with the highest efficiency for creating your machine processes. The whole automation infrastructure is available to the user without any limitations.

Features - Overview

The JetWeb MC offers a wide range of diverse features:

Path control functions

- Point-to-point axes
- Linear interpolation
- Circular interpolation (2D, and 3D) using center point, end point, or intermediate points
- Spline interpolation for implementing complex contours and for generating time-optimal paths in handling applications
- Synchronous axis pairs (gantry axes), gantry motions without canting
- Smoothing between motion blocks and look-ahead feature to optimize the speed curve
- Interpolation of spatial orientation for machines with orientation axes
- Resuming a contour motion
- Synchronized actions

Technological functions

- Electronic gearbox
- Electronic cam disc
- Dynamic coupling/decoupling with reference to a master axis
- Print mark for high-precision position correction
- Cross cutter
- Flying saw
- etc.

The a.m. features can be combined, thus significantly increasing flexibility. Customizing a system to the corresponding application is therefore no trouble at all.

Integration

The integration of axis functions into the controller is an essential feature of Jetter's automation solutions. For a better understanding of the potential offered by this technology, a detailed explanation of the terms used in this connection is given below:

Motion axes

This universal term includes simple positioning tasks, technological functions and special functions.

Technological functions

This term refers to the control of several individual axes which are interlinked in a specific manner. Often, a coordinated motion of several axes is based on a master axis defined by the user. Typical applications are, for example, electric gearing, cam disk (king pins) etc.

Special functions

These are functions relating to an individual axis. Examples of such applications are print-mark recognition, pressure control or screw capping algorithms.

Robot control

A robot control is characterized by an underlying kinematic model. The control system ensures a coordinated motion of several axes for moving a single point in space. This point is referred to as the Tool Center Point (TCP) and makes specifying and examining contour elements easier for the user. Different mechanical arrangements of involved axes are taken into account by JetWeb MC.

CNC

Typically, a CNC is used in machine tool manufacture. The main requirements to be met by the system are a high degree of precision, dynamics and the complex machining of workpieces.

JetWeb MC is a platform covering a wide range of such motion control tasks. This opens up a completely new range of options and simplifies programming of motion control applications. Therefore, the need for integrating different motion controllers into one system is now a thing of the past.

Programming

Control systems are programmed using JetSymb ST(X) - a programming language based on Structured Text. The user is assisted by a convenient motion wizard to ensure efficient and function-oriented programming. There are, for example, instructions like "MotionHome" for machine referencing, "MotionMovePtp" for simple point-to-point positioning, or "MotionMoveSpline" for the implementation of a polynomial path movement. These are only a few examples of the comprehensive motion instruction set included in JetWeb MC.

Summary

Features

- Generation of all command positions for single axes and axis groups
- Complete logical integration of path control into the controller
- Hardware platform: JetControl 647 and JetMove servo amplifier
- Interface for kinematic transformations
- Jerk control to minimize machine vibrations
- Programming in SI units (mm, inch, °)
- Consideration of mechanical parameters

Wide scope of applications

- Screw capping machines
- Winding machines
- Wood, plastic, glass, and stone machining
- Textile machinery
- Packaging machines
- Printing machines
- Handling and assembly systems
- Robots, SCARA, and handling systems
- Palletizing systems
- Roller feed mechanisms
- Special purpose machines

Jetter

Surprisingly simple ...

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