

Motor Control Panel

Background

The motor control panel (MCP) belongs to the proprietary **WesDyne**[®] family of control systems. MCP systems have been developed in-house since the first generation (MCP-01) was introduced in 1993. Since then, a large number of MCPs have been developed and manufactured by WesDyne in support of the evolving product line of manipulators and scanning equipment for nondestructive examination (NDE) in both the nuclear power plant market and the conventional market.

The latest generation of the MCPs is the MCP 4000.

Description

The current generation of the WesDyne MCP is a four-axis control system containing a microprocessor-based motion controller, a power supply for 4x200 W DC motors plus auxiliary systems (such as cameras), input/output (I/O) units and an Ethernet switch.

The MCP is connected to external systems (manipulators, pumps and air panels) by high-grade military specification standard connectors. The system is enclosed in a protective case. Its total weight is approximately 12 kg depending on casing type.

An equipment operator controls the MCP functions using a standard Microsoft[®] Windows[®] computer connected to the MCP via a standard Ethernet connection.



Example of an MCP design: type and layout depend on connector interface needs and system capabilities (number of axes, manipulator-specific design, etc.).

A remote control can be included to control the connected manipulator. The connector is designed to use the Elcis VP51 handwheel, which is an optional accessory to the MCP 4000 (supplied by WDS).



Remote control Elcis VP51

Technical Data	
Weight (incl. case)	~12 kg (case specific)
LxWxH (typical)	510x410x200 mm
Number of axis	4
Motor power available	4x7Amp @ 24V
Motion controller type	Galil DMC - 41x3
Software interface	WILMA**
Connections	110-230V/10A, 50/60 Hz
Ethernet RJ-45	
* Type and number of connector depending on application and specific interface needs	
** WILMA is a user interface application, that enables the user to control and monitor motor parameters and I/O for the systems connected to a WesDyne MCP.	

Apart from the information presented by the control software on the operator computer, a digital readout on the front panel of the MCP provides the operator with information regarding the current consumption of the motors connected to the different axes. An emergency stop button is also located on the front panel.

Depending on customer needs, the MCP can be either customized for a specific type of application or supplied as a multi-purpose unit.

Benefits

The MCP family of control systems is rugged and field proven, and is easily adaptable to almost any equipment.

The newest MCPs have incorporated lessons learned from previous versions and continue to improve with each new generation.

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Experience

The MCP family of control systems has been used in mechanized inspections worldwide since it was first introduced in the mid-1990s. The United States, Brazil, France, Belgium, Switzerland, Sweden and Finland are but a few of the countries where WesDyne or its customers have used the MCP systems.

WesDyne is the nondestructive inspection branch of Westinghouse and a leading supplier of mechanized nondestructive examination (NDE) products for all inspection needs worldwide providing turnkey and one-off-type solutions with a focus on the nuclear market. WesDyne expertise spans all aspects of remote and mechanized inspections, from problem analysis and solutions generation to development and manufacturing to field deployment of personnel and equipment. Inspection capabilities cover all key NDE areas such as ultrasonic, visual, eddy current, magnetic particle, dye penetrant and X-ray.

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