DC Motor Controls

Limit Switch Controls

An **Industrial Devices** limit switch control is your most cost effective solution for applications requiring simple positioning to pre-determined locations. Limit switch controls are easy to install, interface, and operate. Four series to choose from D2200, D2300, H3301B, and H4301.

Manually adjustable, actuator-mounted switches sense the position of the cylinder rod or carriage, and signal the control to reverse direction, change speed, stop, etc. Limit switch controls commonly interface to PLCs, industrial PC, and switch panels via optically isolated I/O

Models	D2200	D2300	H3301B	H4301
Motor Type	24 volt DC	24 volt DC	160 volt DC	160 volt DC
Shaft Power Cont./Peak	100/200 W	100/200 W	270/640 W	530/1,070 W
Actuator Compatibility	EC2D, NVD, R2D, R3D	EC2D, NVD, R2D, R3D	EC3H, EC2H, NVH, R2H, R3H	ECH, R4H
Power Input	20-30VDC 115.230 VAC	20-30VDC 115.230 VAC	115 VAC	115 VAC
Logic Inputs	Extend, Retract, Stop	Extend, Retract, Stop, End of Travel, Change Speed	Extend (+) Retract (-) Stop (+/-) EOT (+/-) Change Speed (+/-) Run/Jog Mode Stop	

Analog Position Controls

Industrial Devices Analog Position Control work with the electrical cylinders to create cost-effective closed loop, absolute linear positioning systems. The control receives a signal directly from a PLC, industrial PC, sensor, or external potentiometer joystick. The electric cylinder has a linear potentiometer (option L on the order code) to give a feed back to the controller. The control compares the command and actual position of the cylinder and maintains the position of the cylinder. Because this is an absolute position control system, homing is not necessary. Four series to choose from D2500, H3501, H4501, B8501.

Model	D2500	H3501	H4501	B8501
Motor Type	24 volt DC	160 volt DC	160 volt DC	Brushless Servo
Shaft Power Cont./Peak	100/100 W	270/640 W	530/1,070 W	1,000/1,900 W
Actuator Compatibility	EC2D-L NVD-L	EC2H-L EC3H-L NVH-L	EC5H-L	EC2B-L, EC3B-L EC5B-L
Power Input	20-30 VDC 115/230 VAC	115 VAC	115 VAC	115/230 VAC

Contact your local Womack sales office for more information.

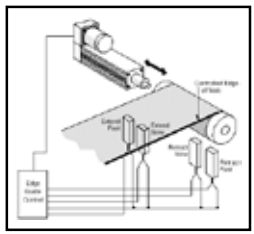
DC Motor Controls

Edge Guide Controls

The **H3321B** and **H4321 Edge Guide** controls provides a cost-effective method of adjusting and maintaining web position. Examples are reel stand (let-off and re-reeling), steering roller, and pivoting roller type applications.

The edge guide control centers the web by monitoring edge sensors and moving the actuator as needed to maintain center. An **IDC** cylinder or rodless actuator moves the spool or steering roll to maintain a centered position. When operated in automatic mode, the control will extend and retract the actuator in response to the sensor inputs. In manual mode, JOG inputs are used to manually adjust web position.

Models	H3321	H4321
Motor Type	160 VDC	160 VDC
Shaft Power Cont./Peak	270/640 W	530/1070 W
Actuator Compatibility	HC2H, HC3H, NVH	HC5H, R4H
Power Input	115 VAC	115 VAC



Contact your local **Womack** office for more information on IDC Edge Guide Controls

DC Motor Control Options

Fan Kit Option

IDC controls are designed for convection cooling. The shape and size of the heatsinks are the result of thermal analysis and experimentation. Nearly all applications do not require forced air cooling. However, a **FK** fan kit option is available.

When is a Fan Kit Needed?

- High regenerative loads that do not require an **RPACK-1**.
- Vertical, high friction, or clamping applications.

Fan Kits are Available For the Following Controls:

H3301B	S6002	B6961	B8001
H3321B	S6961	B6962	B8501
H3501	S6962		
H4321			
H4501			

Fan Kits can be ordered with control as option or can be purchased separately as model number **FANKIT-1** or **FANKIT-2.**

Note: FK fan kits are not compatible with **D2000 Series** controls.

RPack Option

When a large inertial load is decelerated or a vertical load is lowered, the mechanical energy that is not dissipated as heat in the actuator or drive is "regenerated" by the motor and transferred back into the drive's power supply. This causes the drive's power supply voltage to increase. Without circuit protection, this voltage increase can damage a drive.

When to use a RPack?

- If load is vertical using a ballscrew.
- When application requires excessive regen dissipation and control faults.
- When decelerating large inertial loads

The **RPack** option is available for the same controls as the **Fan Kits**. Each **RPack** provides connections for hookup to either servo or stepper drives for a total dissipation of 240 W continuous and 1000 W peak (for 3 seconds).

Contact your local **Womack** sales office for more information on the **Fan Kit** option or the **RPack** option.