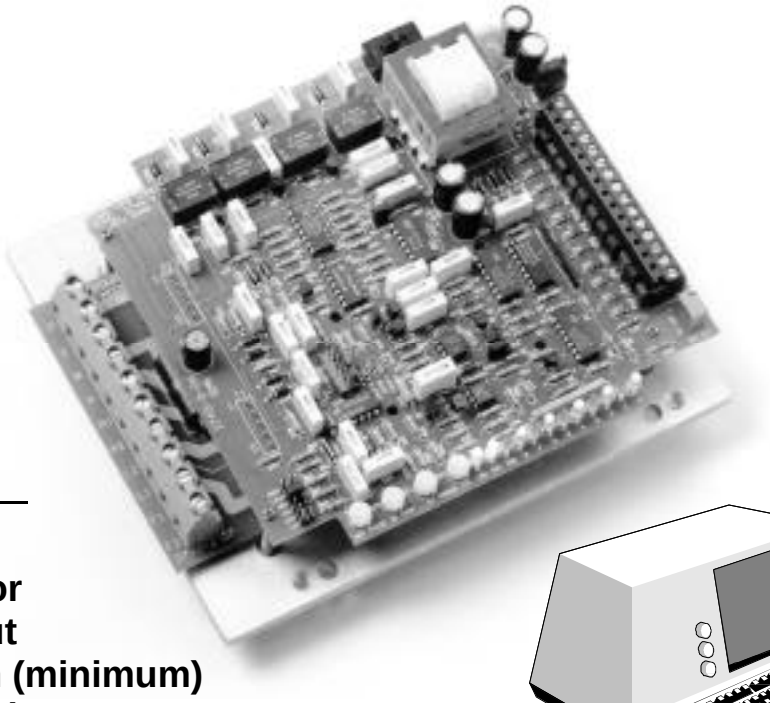
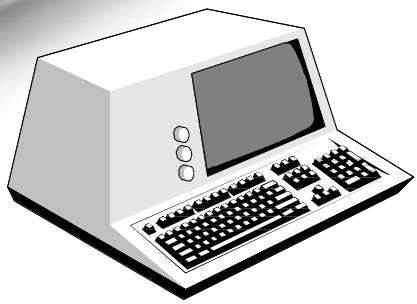
Powr Ups Model

DC MOTOR



Model 2745D-3 Digital
Model 2745A-3 Analog
Isolated Input

- **Diagnostic LEDs**
- **10 Bit digitial input, or**
- **±5 VDC analog input**
- **1500 volt isolation (minimum)**
- **Extremely rugged**
- **Completely failsafe**
- **Static direction switching control**
- **Controlled motor output up to 3 HP**



INPUT SOURCE

POWR-UPS Model 2745-3 motor controls are full wave, full regenerative (four quadrant) modules that control the speed and direction of motor torque for shunt wound or permanent magnet DC motors. These exceptionally rugged controls are available for either digital or analog isolated inputs, and feature fully static (solid state) switching and thyristor phase angle control, for applications of up to 3 horsepower.

These motor controls are available in open frame construction suitable for OEM use in user provided enclosures. Power connections are made with a heavy duty barrier block. A field removable barrier block is provided for signal connections. Holes are provided for bottom mounting.

Model 2745-3 controls operate from either 115 VAC or 230 VAC lines at 50 Hz or 60 Hz. Power line fuses are incorporated on the bottom of the board. These controls operate in conjunction with an auxiliary transformer to drive motors with an armature rating of 24, 48, 90, 130 and 180 VDC. A field voltage supply producing either 50, 100 or 200 VDC is also incorporated for shunt field motors.

OPTIONS

Model p/n 2745-06 plug-in adjustable accel/decel board permits control of clockwise and counterclockwise acceleration and deceleration with four independent adjustments.

Model 2745-3 COVER (perforated metal cover).

DIGITAL INPUT: Model 2745D-3
for applications up to 3 horsepower

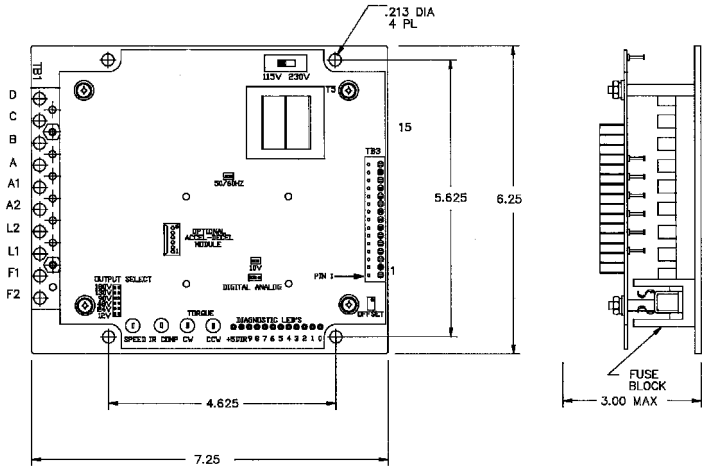
These controls are easily interfaced to either microprocessors or 10-bit parallel TTL logic level sources. Motor speed and direction are determined by the value of a 10-bit parallel input: one bit for direction and 9 bits for motor speed. Unused bits in lower resolution applications may be tied off. Logic input signals are isolated from the motor and power line with a minimum isolation voltage of 1500 VDC, reducing the possibility of grounding, noise or safety problems. In addition, a failsafe circuit de-energizes the motor if the input control power is not present. Use Model 2745D or 2745DL for applications under 1 HP (see separate data sheet). Diagnostic LEDs for user interface and setup.

ANALOG INPUT: Model 2745A-3
for applications up to 3 horsepower

These controls are easily interfaced to low level analog circuitry. Motor speed and direction are determined by amplitude and polarity (5 volts full scale) of input signal. Input signals are isolated from the motor and power line with a minimum isolation voltage of 1500 VDC. This reduces the possibility of grounding, noise or safety problems. In addition, a failsafe circuit de-energizes the motor if the input control power is not present. Use Model 2745D or 2745DL for applications under 1 HP (see separate data sheet). Programmable jumper used for ±10 Volt analog input applications.

Please specify operating voltage and line frequency when ordering.

2745-3 Four quadrant control of DC Motors



MOTOR SELECTION SUMMARY

Delivered motor horsepower	1.0	2.0	3.0
Line current (amperes RMS)	11	22	33
DC armature current (amperes, full load)	7.7	15.4	23.1
Recommended transformer P/N	T90.01	T90.02	T90.03
Output torque (Ft-Lbs at 1750 RPM)	3.0	6.0	9.0

DIGITAL INPUT VERSION: INPUT COMMAND/INTERFACE CODING

PIN 1 Polarity Bit (low = CW, high = CCW rotation)
PIN 2 Speed Control Bit 9 (MSB)
PIN 3 Speed Control (Bit 8)
PIN 4 Speed Control (Bit 7)
PIN 5 Speed Control (Bit 6)
PIN 6 Speed Control (Bit 5)
PIN 7 Speed Control (Bit 4)
PIN 8 Speed Control (Bit 3)
PIN 9 Speed Control (Bit 2)
PIN 10 Speed Control (Bit 1)
PIN 11 Speed Control (Bit 0)
PIN 12 .....NC
PIN 13 Input Common
PIN 14 Internal Failsafe
PIN 15 External Failsafe

FULL SPEED = All speed bits low (CW or CCW as desired)

ZERO SPEED = Bits 9 through 0 high

Examples:

CW rotation, full speed	0	0	0	0	0	0	0	0	0	0
CCW rotation, full speed	1	0	0	0	0	0	0	0	0	0
CW rotation, 50% speed	0	1	0	0	0	0	0	0	0	0
CCW rotation, 50% speed	1	1	0	0	0	0	0	0	0	0
OFF (zero speed)	0	1	1	1	1	1	1	1	1	1
OFF (zero speed)	1	1	1	1	1	1	1	1	1	1

ANALOG INPUT VERSION: INPUT CONNECTIONS

PIN 12 Analog Signal Input
PIN 13 Input Common
PIN 14 Internal Failsafe
PIN 15 External Failsafe

ORDERING INFORMATION

1. Specify analog or digital input (Model 2745A-3 or 2745D-3).
2. Specify power line voltage (115 VAC or 230 VAC).
3. Specify power line frequency (50 Hz or 60 Hz).
4. Specify motor voltage.