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Find the *Parker / Compumotor PDHX15-E* at our website: *Click HERE*



CE (EMC and LVD)

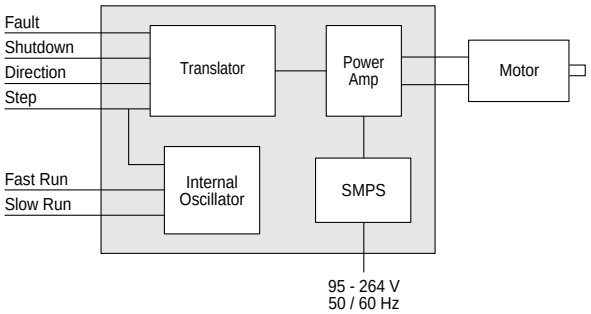
PDS-E Series
Step/Direction Drives

Designed primarily for use with an external controller, the PDS-E has fully opto-isolated inputs for TTL-level step and direction signals. Separate non-isolated inputs are provided for single-ended control signals operating at 12V levels. The drive also incorporates a dual-speed internal oscillator with adjustable ramping for manual positioning or simple on-off control. The PDS-E is available with two current levels—3 A (PDS13E) and 5 A (PDS15E).

Features

- CE marked with full EMC and LVD compliance
- Meets emission directive without cabinet mounting
- Meets most stringent EMC directives relevant to motion control products
- Standardized Step/Direction/Shutdown inputs and Fault output
- Directly compatible with Compumotor 6000 Series controls
- Directly compatible with open-collector user supplied pulse sources
- Internal dual range speed-control oscillator
- Self-test rotates motor without supplying external pulse source
- Internal noise suppression filter

Diagram



Parker Automation
Parker Hannifin Corporation
Compumotor Division
Rohnert Park, California

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PDS-E Specifications

Parameter	Value
AC Power Input	
Drive supply voltage	95VAC–264VAC (absolute limits)
Supply frequency range	47 to 63Hz
Power factor	Better than 0.9 over full input voltage and output power range
Maximum input power	200VA (PDS13E), 300VA (PDS15E)
Input current	3Apk (2 A rms) max (PDS13E), 5Apk(3 A rms) max (PDS15E)
Recommended supply protection	3 A MCB type C characteristics
Performance	
Resolution	Switch selectable: 400, 1,000, 2,000 and 4,000 steps/rev
Speed/Torque	Curves located on page C62
Motors	
Type	2-phase hybrid or permanent magnet
Step angle	Typically 1.8°, but 0.9°, or 3.6° and others acceptable
Motion	Linear or rotary movement
Number of leads	4, 6 or 8 (5 lead not suitable)
Inductance	Min. 1MH, max. 30MH: recommend 1-10MH
Dimensions	Refer to dimension drawings on page C64
Amplifier	
Type	20KHz fixed frequency, bi-polar recirculating current control using ultra-low $Rds_{(ON)}$ MOSFETs
DC Bus voltage	70VDC
Nominal current	One-phase-on or peak current level 0.9-3.0A (PDS13E), 2.5-5.0A (PDS15E/PDHX15E)
Standby	Current is normally reduced to 80% of nominal when the motor is stopped. Reduction of 50% can be selected with the standby switch
Protection	Drive shuts down and signals a fault in any of the conditions listed
Short-circuit	Across and between phase and phase to GND
Brownout	If DC Bus <50VDC
Overvoltage	If DC Bus >90VDC
Internal supplies	Any internal supply out of specification
Overtemperature	If internal temperature >90° (194°F)
Self-Test	Rotates motor at SLOW speed setting
Diagnostics	Power LED (green); Fault LED (red) and Fault Output
Reset	Faults reset by Shutdown input; power-up reset time 2 sec
Step/Direction Mode	Differential TTL opto-isolated inputs. On current = 10mA min., 21mA max.; voltage low = 0.4V max.; voltage high = 3-5.0V
Step Input	Drive steps on high-low transition; Min. step pulse width 1µS; Max. frequency 200KHz
Direction Input	Motor direction changes on transition; Direction input must change at least 2.5µS before step pulse
Shutdown Input	Motor shutdown when input high; Fault latch reset on high-low transition
Fault Output	Opto-isolated NPN transistor Fault + = Collector, Fault - = Emitter; Transistor ON during Fault conditions Vce(sat) = +1.0V max. at 5mA; Vce(max) = +24V max.; Imax = 5mA
Aux Clock Input	Single-ended step input, 4k7 pull-up to +12V; Voltage low: 0 to +2.0V or short to gnd; Voltage high: +10V to +12V or open circuit; Minimum pulse wideth = 8 µs and Max frequency = 50 kHz; Negative going pulses, steps on high-low transition
Aux DIR Input	Single-ended direction input, 4k7 pull-up to +12V Voltage low: 0 to +2.0V or short to gnd; Voltage high: +10V to +12V or open circuit
Oscillator Mode	
Slow Input	Active low; Low voltage <2.0V High voltage open-circuit, internally pulled-up to 12V
Fast Input	Active low; Low voltage <2.0V High-voltage open-circuit, internally pulled-up to 12V
Aux DIR Input	Controls motor direction; Low-voltage <2.0V High-voltage open-circuit, internally pulled-up to 12V
Slow speed range	0.05 rps-2.0 rps, unramped; Internal slow potentiometer or external 100K potentiometer
Fast speed range	1 rps-50 rps ramped; Internal fast potentiometer or external 10K potentiometer
Ramping	Acceleration/Deceleration of Fast speed only 20-500 rps^2
Internal clock-out	NPN transistor: Open-collector, emitter = GND; Low going pulse for every pulse generated by the oscillator; Output pulse width = 1µS (fixed); Vce(sat) = 0.25V at I = 10mA; Vce(max) = 24V; Imax = 15mA
Physical	
Drive dimensions	Height 9.8" (250mm), width 2" (50mm), depth 7.5" (190mm); Drawings located on page C63
Weight (Drive only)	Net 4 lbs (1.8Kg); Ship 5.7 lbs (2.6Kg)
Environmental	
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-40°C to 85°C (40°F to 185°F)
Relative Humidity	0% to 95% (non-condensing)
Ingress protection	IP20
Mounting	Panel mount. Vertical mounting only; Mounting slots for #8 (M4) Allen Cap or Fillister/Pan Head screws

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