

Common Features for ALL PD Models

- Fast Transient Response – 50us
- Low Ripple and Noise (PARD)
- 16 bit Digital Design Displays both voltage and current measurements, OVP, OCP, V_{LIST}, I_{LIST}, and other system indicator on an LCD display simultaneously without the need for external DMM or monitoring
- Front Panel Keypad for precise and easy-to-operate setting of the output voltage, current and other system functions
- Automatic Crossover of Constant Current or Constant Voltage Mode.
- Embedded RS-232 and IEEE488.2 SCPI/GPIB Standard and Optional Ethernet or USB-only Control for flexible remote digital programming and read back
- Optional RS-485 for Master/Slave Paralleling & to control multiple blocks of identically rated power supplies with a single PC interface connection
- V_{LIST} and I_{LIST} in Stepping Mode, PD Series to generate customized sequence of different output level up to maximum of 20 steps (points), with dwell times from 10ms to 1 minute stored in 4 profiles (This sequence can be cycled once or to a user-defined number of cycles)
- High-speed and Ultra-precision Design with 0.04% measurement accuracy and 0.1mA/0.5mV resolution (not applicable to all models)
- Programmable OVP (Over-voltage Protection) & OCP (Over-current Protection), Redundant OTP (Over-temperature Protection), UVP (Under-voltage Protection), Remote Lockout (for I_{LIST}, V_{LIST} and ATE), Fan-speed Control
- Remote Sensing to compensate for measurement errors due to large line drops
- Electronic Remote/Local Closed-cased Calibration
- Active Down Programming Control for fast down programming speed
- Polarity Reversal & Isolation Output Relays available
- LabVIEW/LabWindows Drivers
- Local/Remote Voltage and Current Limit Programming with selectable programming ranges (Optional)
- TTL Function to enable/disable the power supply output. (Optional)
- External Analog Voltage (0 to +10Vdc) Input for the programming voltage/current output (Optional)
- Multi-channel systems available, up to 8 channels per chassis. (PDS Models)
- Modified & Customized Solutions such as higher voltage/current ratings

E- Option Model Features (Keypad, Encoder, Ethernet)

- Digital Encoder & Full Functional Keypad for real-time programmatic control
- Ethernet and RS-485 available for system-level expansion & integration
- Standard Tracking Feature for multi-channel synchronized control
- USB-only Interface available



PDS Model Features (Multi-channel)



- More Choices - the only linear supply providing up to 350Vdc, 50Adc @ maximum power of up to 1.75 ~ 2kW in a single 4U 19" inch rackmount box
- More Flexibility - customize the voltage/power/current rating of numerous single supplies and combine them into a single system with up to 8 channels per 4U box
- More Expandability - Master/Slave Parallel multiple identically-rated systems & control up to 32 channels as a single unit via one GPIB, RS-232, or RS-485 address

MODEL ¹	VOLTAGE OUTPUT 0-Vdc Max.	CURRENT OUTPUT 0-Adc Max.	PROGRAMMING				OVER-VOLTAGE PROTECTION	READBACK		
			Resolution ²		Accuracy ¹⁰			Resolution ²		
			Voltage (mV)	Current (mA)	Voltage (mV)	Current (mA)		Voltage (mV)	Current (mA)	
PD5-3	5	3	0.5	0.3	0.02% + 1.5	0.03% + 0.9	0.2%+0.3%	0.5	0.3	
PD5-10	5	10	0.5	1	0.02% + 1.5	0.03% + 3.0	0.2%+0.3%	0.5	1	
PD5-12	5	12	0.5	1.2	0.02% + 1.5	0.03% + 3.6	0.2%+0.3%	0.5	1.2	
PD5-20	5	20	0.5	2	0.02% + 1.5	0.03% + 6.0	0.2%+0.3%	0.5	2	
PD5-24	5	24	0.5	2.4	0.02% + 1.5	0.03% + 7.2	0.2%+0.3%	0.5	2.4	
PD5-30	5	30	0.5	3	0.02% + 1.5	0.03% + 9.0	0.2%+0.3%	0.5	3	
PD5-40	5	40	0.5	4	0.02% + 1.5	0.03% + 12	0.2%+0.3%	0.5	4	
PD8-2	8	2	0.8	0.2	0.02% + 2.4	0.03% + 0.6	0.2%+0.3%	0.8	0.2	
PD8-4	8	4	0.8	0.4	0.02% + 2.4	0.03% + 1.2	0.2%+0.3%	0.8	0.4	
PD8-10	8	10	0.8	1	0.02% + 2.4	0.03% + 3.0	0.2%+0.3%	0.8	1	
PD 8-20	8	20	0.8	2	0.02% + 2.4	0.03% + 6.0	0.2%+0.3%	0.8	2	
PD8-40	8	40	0.8	4	0.02% + 2.4	0.03% + 12	0.2%+0.3%	0.8	4	
PD20-1	20	1	2	0.1	0.02% + 6.0	0.03% + 0.3	0.2%+0.3%	2	0.1	
PD20-2	20	2	2	0.2	0.02% + 6.0	0.03% + 0.6	0.2%+0.3%	2	0.2	
PD20-3	20	3	2	0.3	0.02% + 6.0	0.03% + 0.9	0.2%+0.3%	2	0.3	
PD20-4	20	4	2	0.4	0.02% + 6.0	0.03% + 1.2	0.2%+0.3%	2	0.4	
PD20-5	20	5	2	0.5	0.02% + 6.0	0.03% + 1.5	0.2%+0.3%	2	0.5	
PD20-10	20	10	2	1	0.02% + 6.0	0.03% + 3.0	0.2%+0.3%	2	1	
PD20-30	20	30	2	3	0.02% + 6.0	0.03% + 9.0	0.2%+0.3%	2	3	
PD20-50	20	50	2	5	0.02% + 6.0	0.03% + 15	0.2%+0.3%	2	5	
PD30-0.6	30	0.6	3	0.1	0.02% + 9.0	0.03% + 0.2	0.2%+0.3%	3	0.1	
PD30-1.2	30	1.2	3	0.2	0.02% + 9.0	0.03% + 0.4	0.2%+0.3%	3	0.2	
PD30-2	30	2	3	0.2	0.02% + 9.0	0.03% + 0.6	0.2%+0.3%	3	0.2	
PD30-2.5	30	2.5	3	0.3	0.02% + 9.0	0.03% + 0.8	0.2%+0.3%	3	0.3	
PD30-5	30	5	3	0.5	0.02% + 9.0	0.03% + 1.5	0.2%+0.3%	3	0.5	
PD30-10	30	10	3	1	0.02% + 9.0	0.03% + 3.0	0.2%+0.3%	3	1	
PD35-2.0	35	2	3.5	0.2	0.02% + 10.5	0.03% + 0.6	0.2%+0.3%	3.5	0.2	
PD40-0.5	40	0.5	4	0.1	0.02% + 12.0	0.03% + 0.2	0.2%+0.3%	4	0.1	
PD40-1	40	1	4	0.1	0.02% + 12.0	0.03% + 0.3	0.2%+0.3%	4	0.1	
PD40-1.5	40	1.5	4	0.2	0.02% + 12.0	0.03% + 0.5	0.2%+0.3%	4	0.2	
PD40-2	40	2	4	0.2	0.02% + 12.0	0.03% + 0.6	0.2%+0.3%	4	0.2	
PD40-3.5	40	3.5	4	0.4	0.02% + 12.0	0.03% + 1.1	0.2%+0.3%	4	0.4	
PD40-7	40	7	4	0.7	0.02% + 12.0	0.03% + 2.1	0.2%+0.3%	4	0.7	
PD40-6	40	6	4	0.6	0.02% + 12.0	0.03% + 1.8	0.2%+0.3%	4	0.6	
PD60-0.3	60	0.3	6	0.1	0.02% + 18.0	0.03% + 0.1	0.2%+0.3%	6	0.1	
PD60-1	60	1	6	0.1	0.02% + 18.0	0.03% + 0.3	0.2%+0.3%	6	0.1	
PD60-3	60	3	6	0.3	0.02% + 18.0	0.03% + 0.9	0.2%+0.3%	6	0.3	
PD60-6	60	6	6	0.6	0.02% + 18.0	0.03% + 1.8	0.2%+0.3%	6	0.6	
PD60-10	60	10	6	1	0.02% + 18.0	0.03% + 3.0	0.2%+0.3%	6	1	
PD60-20	60	20	6	2	0.02% + 18.0	0.03% + 6.0	0.2%+0.3%	6	2	
PD80-0.25	80	0.25	8	0.1	0.02% + 24.0	0.03% + 0.1	0.2%+0.3%	8	0.1	
PD80-2.5	80	2.5	8	0.3	0.02% + 24.0	0.03% + 0.8	0.2%+0.3%	8	0.3	
PD80-3.5	80	3.5	8	0.4	0.02% + 24.0	0.03% + 1.1	0.2%+0.3%	8	0.4	
PD120-0.3	120	0.3	12	0.1	0.02% + 36.0	0.03% + 0.1	0.2%+0.3%	12	0.1	
PD120-0.5	120	0.5	12	0.1	0.02% + 36.0	0.03% + 0.2	0.2%+0.3%	12	0.1	
PD120-0.5	120	0.5	12	0.1	0.02% + 36.0	0.03% + 0.2	0.2%+0.3%	12	0.1	
PD120-1	120	1	12	0.1	0.02% + 36.0	0.03% + 0.3	0.2%+0.3%	12	0.1	
PD120-2	120	2	12	0.2	0.02% + 36.0	0.03% + 0.6	0.2%+0.3%	12	0.2	
PD250-0.2	250	0.2	25	0.1	0.03% + 100	0.03% + 0.1	0.2%+0.3%	25	0.1	
PD250-0.4	250	0.4	25	0.1	0.03% + 100	0.03% + 0.1	0.2%+0.3%	25	0.1	
PD250-0.6	250	0.6	25	0.1	0.03% + 100	0.03% + 0.2	0.2%+0.3%	25	0.1	

Temperature Coefficient⁸:

Constant Voltage - 100 ppm/°C Constant Current - 200 ppm/°C

Output Isolation:

Vout < 350Vdc: ± 500Vdc / Vout < 120Vdc: ± 240Vdc

AC Input⁹:

103.5 ~ 126.5Vac or 207 ~ 253Vac @ 50/60Hz

Load Transient Response Time⁶: 50 µs^{*1: All electronic specifications are represented at the full operating temperature range for all models.}^{*2: The programming and readback resolutions are based on 16 bit resolution design.}^{*3: Load regulation specifications are for 10 - 90% load changes.}^{*4: Line regulation specifications are for input voltage variation over the AC input voltage range with constant rated load.}^{*5: Ripple and Noise (PARD) specifications are for 10 - 100% output voltage and full output current.}

READBACK		REGULATION			PARD ⁶	DRIFT (STABILITY) ¹⁰		PROGRAM ⁷
Accuracy ¹⁰		Load ³		Line ⁴	CV/CC	CV (mV) CC (mA)		T _{UP} /T _{DN}
Voltage (mV)	Current (mA)	CV (mV)	CC (mA)	CV/CC	mVrms/mV _{PK-PK}	CV (mV)	CC (mA)	
0.02% + 1.5	0.02% + 0.9	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.3	0.1% + 0.20	10/10ms
0.02% + 1.5	0.02% + 3.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.3	0.1% + 0.50	10/10ms
0.02% + 1.5	0.02% + 3.6	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.3	0.1% + 0.60	10/10ms
0.02% + 1.5	0.02% + 6.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.3	0.1% + 1.00	10/10ms
0.02% + 1.5	0.02% + 7.2	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.3	0.1% + 1.20	10/10ms
0.02% + 1.5	0.02% + 9.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.3	0.1% + 1.50	10/10ms
0.02% + 1.5	0.02% + 12.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.3	0.1% + 2.00	10/10ms
0.02% + 2.4	0.02% + 0.6	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.4	0.1% + 0.10	10/10ms
0.02% + 2.4	0.02% + 1.2	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.4	0.1% + 0.20	10/10ms
0.02% + 2.4	0.02% + 3.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.4	0.1% + 0.50	10/10ms
0.02% + 2.4	0.02% + 6.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.4	0.1% + 1.00	10/10ms
0.02% + 2.4	0.02% + 12.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 0.4	0.1% + 2.00	10/10ms
0.02% + 6.0	0.02% + 0.3	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 1	0.1% + 0.10	30/40ms
0.02% + 6.0	0.02% + 0.6	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 1	0.1% + 0.10	30/40ms
0.02% + 6.0	0.02% + 0.9	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 1	0.1% + 0.20	30/40ms
0.02% + 6.0	0.02% + 1.2	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 1	0.1% + 0.20	30/40ms
0.02% + 6.0	0.02% + 1.5	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 1	0.1% + 0.30	30/40ms
0.02% + 6.0	0.02% + 3.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 1	0.1% + 0.50	30/40ms
0.02% + 6.0	0.02% + 9.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 1	0.1% + 1.50	30/40ms
0.02% + 6.0	0.02% + 15.0	0.001% + 1	0.01% + 1	1mV/1mA	0.3/3	0.01% + 1	0.1% + 2.50	30/40ms
0.02% + 9.0	0.02% + 0.2	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 1.5	0.1% + 0.10	30/40ms
0.02% + 9.0	0.02% + 0.4	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 1.5	0.1% + 0.10	30/40ms
0.02% + 9.0	0.02% + 0.6	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 1.5	0.1% + 0.10	30/40ms
0.02% + 9.0	0.02% + 0.8	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 1.5	0.1% + 0.20	30/40ms
0.02% + 9.0	0.02% + 1.5	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 1.5	0.1% + 0.30	30/40ms
0.02% + 9.0	0.02% + 3.0	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 1.5	0.1% + 0.50	30/40ms
0.02% + 10.5	0.02% + 0.6	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 1.8	0.1% + 0.10	30/40ms
0.02% + 12.0	0.02% + 0.2	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 2	0.1% + 0.10	30/40ms
0.02% + 12.0	0.02% + 0.3	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 2	0.1% + 0.10	30/40ms
0.02% + 12.0	0.02% + 0.5	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 2	0.1% + 0.10	30/40ms
0.02% + 12.0	0.02% + 0.6	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 2	0.1% + 0.10	30/40ms
0.02% + 12.0	0.02% + 1.1	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 2	0.1% + 0.20	30/40ms
0.02% + 12.0	0.02% + 2.1	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 2	0.1% + 0.40	30/40ms
0.02% + 12.0	0.02% + 1.8	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 2	0.1% + 0.30	30/40ms
0.02% + 18.0	0.02% + 0.1	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 3	0.1% + 0.10	30/40ms
0.02% + 18.0	0.02% + 0.3	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 3	0.1% + 0.10	30/40ms
0.02% + 18.0	0.02% + 0.9	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 3	0.1% + 0.20	30/40ms
0.02% + 18.0	0.02% + 1.8	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 3	0.1% + 0.30	30/40ms
0.02% + 18.0	0.02% + 3.0	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 3	0.1% + 0.50	30/40ms
0.02% + 18.0	0.02% + 6.0	0.001% + 1	0.01% + 1	1mV/1mA	0.6/3	0.01% + 3	0.1% + 1.00	30/40ms
0.02% + 24.0	0.02% + 0.1	0.001% + 1	0.01% + 1	1mV/1mA	1/6	0.01% + 4	0.1% + 0.10	30/40ms
0.02% + 24.0	0.02% + 0.8	0.001% + 1	0.01% + 1	1mV/1mA	1/6	0.01% + 4	0.1% + 0.20	30/40ms
0.02% + 24.0	0.02% + 1.1	0.001% + 1	0.01% + 1	1mV/1mA	1/6	0.01% + 4	0.1% + 0.20	30/40ms
0.02% + 36.0	0.02% + 0.1	0.001% + 1	0.01% + 1	1mV/1mA	1/6	0.01% + 6	0.1% + 0.10	30/40ms
0.02% + 36.0	0.02% + 0.2	0.001% + 1	0.01% + 1	1mV/1mA	1/6	0.01% + 6	0.1% + 0.10	30/40ms
0.02% + 36.0	0.02% + 0.2	0.001% + 1	0.01% + 1	1mV/1mA	1/6	0.01% + 6	0.1% + 0.10	30/40ms
0.02% + 36.0	0.02% + 0.3	0.001% + 1	0.01% + 1	1mV/1mA	1/6	0.01% + 6	0.1% + 0.10	30/40ms
0.02% + 36.0	0.02% + 0.6	0.001% + 1	0.01% + 1	1mV/1mA	1/6	0.01% + 6	0.1% + 0.10	30/40ms
0.03% + 75.0	0.03% + 0.1	0.001% + 1	0.01% + 1	1mV/1mA	2/15	0.01% + 13	0.1% + 0.10	150/170ms
0.03% + 75.0	0.03% + 0.1	0.001% + 1	0.01% + 1	1mV/1mA	2/15	0.01% + 13	0.1% + 0.10	150/170ms
0.03% + 75.0	0.03% + 0.2	0.001% + 1	0.01% + 1	1mV/1mA	2/15	0.01% + 13	0.1% + 0.10	150/170ms

*6: Time for output voltage to recover to within +/- 0.5% of V_{FULL-SCALE} following a 10% ~ 60% load current change.

*7: Programming speed specifications are for 50% of full current loading.

*8: Temperature coefficient specifies output change per °C in ambient temp. rise following 30 min. warm up, w/ constant line & load.

*9: AC Input is fixed and factory configured to either 103.5 ~ 126.5Vac or 207 ~ 253Vac @ 50/60Hz.

*10: Over-voltage Protection, Readback & Programming Accuracy, Load/Line Regulation and CV/CC Drift are specified as Reading/Setting + Full Scale.

*11: Dual Channel PD Models are also available.

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