

SPECIFICATIONS

Model		PEL-3021A					PEL-3041A			PEL-3111A			PEL-3211A			
Voltage		0 V to 150 V					0 V to 150 V			0 V to 150 V			0 V to 150 V			
Current		35 A					70 A			210 A			420 A			
Power		175 W					350 W			1050 W			2100 W			
Input Resistance		500 kΩ					500 kΩ			500 kΩ			500 kΩ			
Min. Operating		0.75 V at 17.5 A					0.75 V at 35 A			0.75 V at 105 A			0.75 V at 210 A			
		1.5 V at 35 A					1.5 V at 70 A			1.5 V at 210 A			1.5 V at 420 A			
CONSTANT CURRENT MODE (CC)																
Operating Range		H, M, L		0 A to 35 A	0 A to 3.5 A	0 A to 0.35 A	0 A to 70 A	0 A to 7 A	0 A to 0.7 A	0 A to 210 A	0 A to 21 A	0 A to 2.1 A	0 A to 420 A	0 A to 42 A	N/A	
Accuracy of Setting		H, M		±(0.2 % of set + 0.1 % of F.S. ^{*1}) + Vin ^{*2} /500 kΩ										±(1.2% of set+1.1% of F.S. ^{*1})		
Accuracy of Setting		L		±(0.2 % of set + 0.1 % of F.S.) + Vin ^{*2} /500 kΩ										N/A		
Accuracy of Setting(Parallel)				±(1.2% of set + 1.1% of F.S. ^{*3})										±(1.2% of set+1.1% of F.S. ^{*1})		
Resolution		H, M, L		1 mA	0.1 mA	0.01 mA	2 mA	0.2 mA	0.02 mA	10 mA	1 mA	0.1 mA	N/A			
CONSTANT RESISTANCE MODE (CR)																
Operating Range ^{*4}			H	23.3336 S to 400 μS (42.857 mΩ to 2.5 kΩ)				46.6672 S to 800 μS (21.428 mΩ to 1.25 kΩ)			140.0016 S to 2.4 mS (7.1427 mΩ to 416.6667 Ω)			280.0032 S to 4.8 mS (3.5714 mΩ to 208.3334 Ω)		
		Range	M	2.33336 S to 40 μS (428.566 mΩ to 25 kΩ)				4.6667 S to 80 μS (214.28 mΩ to 12.5 kΩ)			14.0001 S to 242.4 μS (71.427 mΩ to 4.16667 kΩ)			28.00032 S to 484.8 μS (35.7135 mΩ to 2.083334 kΩ)		
				L	0.233336 S to 4 μS (4.28566 Ω to 250 kΩ)				0.46667 S to 8 μS (2.1428 Ω to 125 kΩ)			1.40001 S to 24.24 μS (714.27 mΩ to 41.6667 kΩ)			N/A	
		Accuracy of Setting ^{*5}		H, M		±(0.5 % of set ^{*6} + 0.5 % of F.S. ^{*1}) + Vin ^{*2} /500 kΩ										±(1.2% of set +1.1% of F.S. ^{*1})
Accuracy of Setting ^{*5}		L		±(0.5 % of set ^{*6} + 0.5 % of F.S.) + Vin ^{*2} /500 kΩ										N/A		
Parallel				±(1.2 % of set + 1.1 % of F.S. ^{*3})										N/A		
Resolution		H, M, L		400 μs	40 μs	4 μs	800 μs	80 μs	8 μs	2.4 ms	240 μs	24 μs	N/A			
CONSTANT VOLTAGE MODE (CV)																
Operating Range		Range	H	1.5 V to 150 V									1.5 V to 150 V			
			L	1.5 V to 15 V									1.5 V to 15 V			
Accuracy of Setting ^{*7}		H, L	±(0.1 % of set + 0.1 % of F.S.)									N/A				
		H, L	10 mV/1 mV													
CONSTANT POWER MODE (CP)																
Operating Range			H	17.5 W to 175 W				35 W to 350 W			105 W to 1050 W			210 W to 2100 W		
		Range	M	1.75 W to 17.5 W				3.5 W to 35 W			10.5 W to 105 W			21 W to 210 W		
			L	0.175 W to 1.75 W				0.35 W to 3.5 W			1.05 W to 10.5 W			N/A		
Accuracy of Setting ^{*8}		H, M, L		±(0.6 % of set + 1.4 % of F.S. ^{*3}) + (Vin ^{*2})/500 kΩ										N/A		
Resolution		H, M, L		10 mW	1 mW	0.1 mW	10 mW	1 mW	0.1 mW	100 mW	10 mW	1 mW				
PARALLEL Mode																
Capacity				875 W				1750 W			5250 W			PEL-3111A with 4 booster units : Max. 9.45 kW		
SLEW RATE																
Operation Mode				CC, CR				CC, CR			CC, CR			N/A		
Setting Range (CC mode) ^{*10}			H	2.5 mA/μs to 2.5 A/μs				5 mA/μs to 5 A/μs			16.02 mA/μs to 16.002 A/μs			N/A		
		Range	M	250 μA/μs to 250 mA/μs				500 μA/μs to 500 mA/μs			1.602 mA/μs to 1.6002 A/μs					
			L	25 μA/μs to 25 mA/μs				50 μA/μs to 50 mA/μs			160.2 μA/μs to 160.02 mA/μs					
Setting Range (CR Mode) ^{*10}			H	250 μA/μs to 250 mA/μs				500 μA/μs to 500 mA/μs			1.602 mA/μs to 1.6002 A/μs			N/A		
		Range	M	25 μA/μs to 25 mA/μs				50 μA/μs to 50 mA/μs			160.2 μA/μs to 160.02 mA/μs					
			L	2.5 μA/μs to 2.5 mA/μs				5 μA/μs to 5 mA/μs			16.02 μA/μs to 16.002 mA/μs					
Accuracy of Setting ^{*9}		H, M, L		±(10 % of set + 5 μs)										N/A		
Resolution (Setting Range) ^{*10}				1 mA(250 mA/μs to 2.5 A/μs)				2 mA(500 mA/μs to 5 A/μs)			6 mA(1.6 A/μs to 16 A/μs)			N/A		
				100 μA(25 mA/μs to 250 mA/μs)				200 μA(50 mA/μs to 500 mA/μs)			600 μA(160 mA/μs to 1.6 A/μs)					
				10 μA(2.5 mA/μs to 25 mA/μs)				20 μA(5 mA/μs to 50 mA/μs)			60 μA(16 mA/μs to 160 mA/μs)					
				1 μA(250 μA/μs to 2.5 mA/μs)				2 μA(500 μA/μs to 5 mA/μs)			6 μA(1.6 mA/μs to 16 mA/μs)					
				100 nA(25 μA/μs to 250 μA/μs)				200 nA(50 μA/μs to 500 μA/μs)			600 nA(160 μA/μs to 1.6 mA/μs)					
				10 nA(2.5 μA/μs to 25 μA/μs)				20 nA(5 μA/μs to 50 μA/μs)			60 nA(16 μA/μs to 160 μA/μs)					
METER																
Voltmeter		Accuracy		±(0.1 % of rdg + 0.1 % of F.S.)										N/A		
Ammeter				±(0.2 % of rdg + 0.3 % of F.S. ^{*3})												
Ammeter(Parallel Operation)				±(1.2 % of rdg +1.1% of F.S.)												
DYNAMIC MODE																
Operation Mode				CC, CR and CP												
T1 & T2				0.025 ms to 10 ms/Resolution : 1 μs 10 ms to 60 s/Resolution : 1 ms												
Accuracy				±100 ppm of setting												
Slew Rate (CC Mode)		Range	H	2.5 mA/μs to 2.5 A/μs				5 mA/μs to 5 A/μs			16 mA/μs to 16 A/μs			N/A		
			M	250 μA/μs to 250 mA/μs				500 μA/μs to 500 mA/μs			1.6 mA/μs to 1.6 A/μs					
			L	25 μA/μs to 25 mA/μs				50 μA/μs to 50 mA/μs			160 μA/μs to 160 mA/μs					
Slew Rate (CR Mode)		Range	H	250 μA/μs to 250 mA/μs				500 μA/μs to 500 mA/μs			1.6 mA/μs to 1.6 A/μs			N/A		
			M	25 μA/μs to 25 mA/μs				50 μA/μs to 50 mA/μs			160 μA/μs to 160 mA/μs					
			L	2.5 μA/μs to 2.5 mA/μs				5 μA/μs to 5 mA/μs			16 μA/μs to 16 mA/μs					
Current Accuracy				±0.4% F.S.				±0.4% F.S.			±0.4% F.S.			±(1.2% of set+1.1% of F.S.)		
PROTECTION FUNCTION																
Functions			Overvoltage protection(OVP), Overcurrent protection(OCP), Overpower protection(OPP), Overheat protection(OTP), Undervoltage protection(UVP), Reverse voltage protection(RVP)													
GENERAL																
Input Range		90 Vac to 132 Vac/180 Vac to 250 Vac Single-phase; 47 Hz to 63 Hz														
Power(Max.)		90 VA					110 VA			190 VA			230 VA			
Interface		Standard : USB, RS-232/RS-485, LAN. Optional : GPIB														
Dimensions (W x H x D)		213.8 mm x 124 mm x 400.5 mm					213.8 mm x 124 mm x 400.5 mm					427.8 mm x 124 mm x 400.5 mm				
Weight		Approximate 6 kg					Approximate 7 kg					Approximate 17 kg				

SPECIFICATIONS

Model		PEL-3021AH				PEL-3041AH				PEL-3111AH				PEL-3211AH			
Voltage		0 V to 800 V				0 V to 800 V				0 V to 800 V				0 V to 800 V			
Current		8.75 A				17.5 A				52.5 A				105 A			
Power		175 W				350 W				1050 W				2100 W			
Input Resistance		3.24 MΩ				3.24 MΩ				3.24 MΩ				3.24 MΩ			
Min. Operating		5 V at 8.75 A				5 V at 17.5 A				5 V at 52.5 A				5 V at 105 A			
		2.5 V at 4.375 A				2.5 V at 8.75 A				2.5 V at 26.25 A				2.5 V at 52.5 A			
CONSTANT CURRENT MODE (CC)																	
Operating Range		H, M, L	0 A to 8.75 A	0 A to 875 mA	0 A to 87.5 mA	0 A to 17.5 A	0 A to 1.75 A	0 A to 175 mA	0 A to 52.5 A	0 A to 5.25 A	0 A to 525 mA	0 A to 105 A	0 A to 10.5 A	0 A to 1.05 A			
Accuracy of Setting		H, M	±(0.2 % of set + 0.1 % of F.S. ^{*1}) + Vin ^{*2} /3.24 MΩ										±(1.2% of set+1.1% of F.S. ^{*3})				
Accuracy of Setting		L	±(0.2 % of set + 0.1 % of F.S.) + Vin ^{*2} /3.24 MΩ														
Accuracy of Setting(Parallel)			±(1.2% of set + 1.1% of F.S. ^{*3})														
Resolution		H, M, L	300 μA	30 μA	3 μA	0.6 mA	60 μA	6 μA	2 mA	200 μA	20 μA	N/A					
CONSTANT RESISTANCE MODE (CR)																	
Operating Range ^{*4}			1.75 S to 30 μS				3.5 S to 60 μS				10.5 S to 180 μS				21 S to 360 μS		
			H	(57.1 mΩ to 33.3 kΩ)				(285 mΩ to 16.6 kΩ)				(95.2 mΩ to 5.55 kΩ)				(47.6 mΩ to 2.777 kΩ)	
		Range	M	175 mS to 3 μS				350 mS to 6 μS				1.05 S to 18 μS				2.1 S to 36 μS	
				(5.71 Ω to 333 kΩ)				(2.85 Ω to 166 kΩ)				(952 mΩ to 55.5 kΩ)				(476 mΩ to 27.77 kΩ)	
			L	17.5 mS to 0.3 μS				35 mS to 0.6 μS				105 mS to 1.8 μS				210 mS to 3.6 μS	
			(57.1 Ω to 3.33 MΩ)				(28.5 Ω to 1.66 MΩ)				(9.52 Ω to 555 kΩ)				(4.762 Ω to 277.7 kΩ)		
Accuracy of Setting ^{*5}		H, M	±(0.5 % of set ^{*6} + 0.5 % of F.S. ^{*1}) + Vin ^{*2} /3.24 MΩ										±(1.2% of set +1.1% of F.S. ^{*3})				
Accuracy of Setting ^{*5}		L	±(0.5 % of set ^{*6} + 0.5 % of F.S.) + Vin ^{*2} /3.24 MΩ														
Parallel			±(1.2 % of set + 1.1 % of F.S. ^{*3})														
Resolution		H, M, L	30 μs	3 μs	0.3 μs	60 μs	6 μs	0.6 μs	180 μs	18 μs	1.8 μs	N/A					
CONSTANT VOLTAGE MODE (CV)																	
Operating Range		Range	H	5 V to 800 V								5 V to 800 V					
			L	5 V to 80 V								5 V to 80 V					
Accuracy of Setting ^{*7}		H, L	±(0.2 % of set + 0.2 % of F.S.)										N/A				
		H, L	20 mV/2 mV														
CONSTANT POWER MODE (CP)																	
Operating Range			H	17.5 W to 175 W				35 W to 350 W				105 W to 1050 W				210 W to 2100 W	
		Range	M	1.75 W to 17.5 W				3.5 W to 35 W				10.5 W to 105 W				21 W to 210 W	
			L	0.175 W to 1.75 W				0.35 W to 3.5 W				1.05 W to 10.5 W				N/A	
Accuracy of Setting ^{*8}		H, M, L	±(0.6 % of set + 1.4 % of F.S. ^{*3}) + (Vin ^{*2}) ² /3.24 MΩ										N/A				
Resolution		H, M, L	10 mW	1 mW	0.1 mW	10 mW	1 mW	0.1 mW	100 mW	10 mW	1 mW						
PARALLEL Mode																	
Capacity			875 W				1750 W				5250 W				PEL-3111AH with 4 booster units : Max. 9.45 kW		
SLEW RATE																	
Operation Mode			CC, CR				CC, CR				CC, CR				N/A		
Setting Range (CC mode) ^{*10}			H	0.14 mA/μs to 140 mA/μs				0.28 mA/μs to 280 mA/μs				0.84 mA/μs to 840 mA/μs				N/A	
		Range	M	14 μA/μs to 14 mA/μs				28 μA/μs to 28 mA/μs				84 μA/μs to 84 mA/μs					
			L	1.4 μA/μs to 1.4 mA/μs				2.8 μA/μs to 2.8 mA/μs				8.4 μA/μs to 8.4 mA/μs					
Setting Range (CR Mode) ^{*10}			H	14 μA/μs to 14 mA/μs				28 μA/μs to 28 mA/μs				84 μA/μs to 84 mA/μs				N/A	
		Range	M	1.4 μA/μs to 1.4 mA/μs				2.8 μA/μs to 2.8 mA/μs				8.4 μA/μs to 8.4 mA/μs					
			L	0.14 μA/μs to 140 μA/μs				0.28 μA/μs to 280 μA/μs				0.84 μA/μs to 840 μA/μs					
Accuracy of Setting ^{*9}		H, M, L	±(10 % of set + 25 μs)										N/A				
Resolution (Setting Range) ^{*10}				50 μA(14 mA/μs to 140 mA/μs)				100 μA(28 mA/μs to 280 mA/μs)				300 μA(84 mA/μs to 0.84 A/μs)				N/A	
				5 μA(1.4 mA/μs to 14 mA/μs)				10 μA(2.8 mA/μs to 28 mA/μs)				30 μA(8.4 mA/μs to 84 mA/μs)					
				0.5 μA(140 μA/μs to 1.4 mA/μs)				1 μA(280 μA/μs to 2.8 mA/μs)				3 μA(840 μA/μs to 8.4 mA/μs)					
				50 nA(14 μA/μs to 140 μA/μs)				0.1 μA(28 μA/μs to 280 μA/μs)				0.3 μA(84 μA/μs to 840 μA/μs)					
				5 nA(1.4 μA/μs to 14 μA/μs)				10 nA(2.8 μA/μs to 28 μA/μs)				30 nA(8.4 μA/μs to 84 μA/μs)					
				0.5 nA(0.14 μA/μs to 1.4 μA/μs)				1 nA(0.28 μA/μs to 2.8 μA/μs)				3 nA(0.84 μA/μs to 8.4 μA/μs)					
METER																	
Voltmeter		Accuracy	±(0.1 % of rdg + 0.1 % of F.S.)										N/A				
Ammeter			±(0.2 % of rdg + 0.3 % of F.S. ^{*3})														
Ammeter(Parallel Operation)			±(1.2% of rdg +1.1% of F.S.)														
DYNAMIC MODE																	
Operation Mode			CC , CR and CP														
T1 & T2			0.025 ms to 10 ms/Resolution : 1 μs 10 ms to 60 s/Resolution : 1 ms														
Accuracy			±100 ppm of setting														
Slew Rate (CC Mode)			H	0.14 mA/μs to 140 mA/μs				0.28 mA/μs to 280 mA/μs				0.84 mA/μs to 840 mA/μs				N/A	
		Range	M	14 μA/μs to 14 mA/μs				28 μA/μs to 28 mA/μs				84 μA/μs to 84 mA/μs					
			L	1.4 μA/μs to 1.4 mA/μs				2.8 μA/μs to 2.8 mA/μs				8.4 μA/μs to 8.4 mA/μs					
Slew Rate (CR Mode)			H	14 μA/μs to 14 mA/μs				28 μA/μs to 28 mA/μs				84 μA/μs to 84 mA/μs				N/A	
		Range	M	1.4 μA/μs to 1.4 mA/μs				2.8 μA/μs to 2.8 mA/μs				8.4 μA/μs to 8.4 mA/μs					
			L	0.14 μA/μs to 140 μA/μs				0.28 μA/μs to 280 μA/μs				0.84 μA/μs to 840 μA/μs					
Current Accuracy			±0.4% F.S.				±0.4% F.S.				±0.4% F.S.				±(1.2% of set+1.1% of F.S.)		
PROTECTION FUNCTION																	
Functions		Overvoltage protection(OVP), Overcurrent protection(OCP), Overpower protection(OPP), Overheat protection(OTP), Undervoltage protection(UVP), Reverse voltage protection(RVP)															
GENERAL																	
Input Range		90 Vac to 132 Vac/180 Vac to 250 Vac Single-phase; 47 Hz to 63 Hz															
Power(Max.)		90 VA				110 VA				190 VA				230 VA			
Interface		Standard : USB, RS-232/RS-485, LAN, Optional : GPIB															
Dimensions (W x H x D)		213.8 mm x 124 mm x 400.5 mm				213.8 mm x 124 mm x 400.5 mm				427.8 mm x 124 mm x 400.5 mm				427.7 mm x 127.8 mm x 553.5 mm			
Weight		Approximate 9 kg				Approximate 10 kg				Approximate 20 kg				Approximate 28 kg			

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