

PEL-5000G 系列

超高功率直流電子負載

特　點

- 4U/6K 高功率密度設計, 便於桌上測試
- Turbo Mode 功能，可在兩秒內使用1.5倍的額定功率或額定電流
- Turbo Mode 可搭配 OCP/OPP/BMS/Short Mode/Surge Mode/ Hot Plug-In 等測試使用
- 環境溫度耐受度高，4k/5kW 機型使用功率不受環境溫度影響
- 可設定開機狀態值
- 於短路測試時可設定短路時間
- 電壓極性顯示可設成正值（"+"）或負值（"−"）
- 可選用介面 : GPIB、RS232、USB、LAN
- 提供電池BMS保護板之保護功能測試
- 過電流、功率、溫度保護及過電壓示警

GW INSTEK
Simply Reliable

超高功率直流電子負載

	NORMAL MODE	TURBO MODE
PEL-5004G-150-400	150V / 400A / 4000W	150V / 600A / 6000W
PEL-5005G-150-500	150V / 500A / 5000W	150V / 750A / 7500W
PEL-5006G-150-600	150V / 600A / 6000W	150V / 900A / 9000W
PEL-5004G-600-280	600V / 280A / 4000W	600V / 420A / 6000W
PEL-5005G-600-350	600V / 350A / 5000W	600V / 525A / 7500W
PEL-5006G-600-420	600V / 420A / 6000W	600V / 630A / 9000W
PEL-5004G-1200-160	1200V / 160A / 4000W	1200V / 240A / 6000W
PEL-5005G-1200-200	1200V / 200A / 5000W	1200V / 300A / 7500W
PEL-5006G-1200-240	1200V / 240A / 6000W	1200V / 360A / 9000W





PEL-5000G 系列

CE RS-232 GPIB USB LAN UKCA

說　明

- 每個PEL-5000G系列模組均有獨立的控制及顯示面板、定電流/定電阻/定電壓/定功率/動態模式，更可透過RS232、Ethernet、USB和GPIB等介面進行遠端控制
- 具備短路測試功能及設定短路時間，並可量測短路電壓及電流
- 在定電流及定功率模式下，可做動態負載之模擬，其電流上升、下降斜率均為獨立可調，另具有一外部輸入任意波形之動態負載功能
- 於模組上新增的OCP、OPP單鍵測試功能，使得OCP、OPP之測試更有效率及準確
- 可設定的吃載/停止吃載(LOAD ON/OFF)電壓點及良/不良(GO/NG)的比較判斷功能、電壓極性顯示可正可負及150組 儲存/呼叫 記憶，使得負載更適用於各種不同的應用
- 多達150組測試參數及狀態的儲存功能，讓其可根據自動測試(Auto Sequence)需求，隨時將儲存記憶調出來任意使用
- 針對電池BMS保護板提供Short、OCCP及OCDP之保護功能測試

應　用

- 電壓/電流源測試
- 交換式電源供應器暫態響應
- 定電壓模式供限流測試及模擬電池
- 電池放電容量
- 鋰電池BMS充放電保護
- 研發、品管
- ATE系統
- 生產測試

超高功率直流電子負載



PEL-5004G-150-400



PEL-5005G-150-500



PEL-5006G-150-600



PEL-5004G-600-280



PEL-5005G-600-350



PEL-5006G-600-420



PEL-5004G-1200-160



PEL-5005G-1200-200



PEL-5006G-1200-240

超高功率直流電子負載

MODEL	PEL-5004G-150-400		PEL-5005G-150-500		PEL-5006G-150-600	
Power[*1]	0 ~ 4kW	0 ~ 6kW max.[*1]	0 ~ 5kW	0 ~ 7.5kW max.[*1]	0 ~ 6kW	0 ~ 9kW max.[*1]
Current	0 ~ 400A	0 ~ 600A max.[*1]	0 ~ 500A	0 ~ 750A max.[*1]	0 ~ 600A	0 ~ 900A max.[*1]
Voltage	0 ~ 150V		0 ~ 150V		0 ~ 150V	
Min. Operating Voltage	0.7V@400A		0.7V@500A		0.7V@600A	
Protections						
Over Power Protection(OPP)	105%					
Over Current Protection(OCP)	104%					
Over Voltage Protection(OVP)	105%					
Over Temp Protection(OTP)	90°C±5°C					
Constant Current Mode						
Range[*2]	0 ~ 40A	0 ~ 400A	0 ~ 50A	0 ~ 500A	0 ~ 60A	0 ~ 600A
Resolution	0.64mA	6.4mA	0.80mA	8.0mA	0.96mA	9.6mA
Accuracy[*3]	± 0.05% of (Setting + Range)					
Constant Resistance Mode						
Range	22.5kΩ ~ 0.375Ω	0.375Ω ~ 0.0018Ω	18kΩ ~ 0.3Ω	0.3Ω ~ 0.0015Ω	15kΩ ~ 0.25Ω	0.25Ω ~ 0.0012Ω
Resolution	44μS	6.25μΩ	56μS	5μΩ	67μS	4.167μΩ
Accuracy	± 0.1%(Vin / Setting)±0.1% IF.S	± 0.1% of (Setting + Range)±0.1% IF.S	± 0.1%(Vin / Setting)±0.1% IF.S	± 0.1% of (Setting + Range)±0.1% IF.S	± 0.1%(Vin / Setting) ±0.1% IF.S	± 0.1% of (Setting + Range) ±0.1% IF.S
Constant Voltage Mode						
Range	0 ~ 150V					
Resolution	2.5mV					
Accuracy	± 0.05% of (Setting + Range)					
Constant Power Mode						
Range	0 ~ 400W	400 ~ 4kW	0 ~ 500W	500 ~ 5kW	0 ~ 600W	600 ~ 6kW
Resolution	6.4mW	64mW	8mW	80mW	9.6mW	96mW
Accuracy[*4]	± 0.2% of (Setting + Range)					
Constant Voltage Mode + Current Limit Mode						
Range	150V	400A	150V	500A	150V	600A
Resolution	2.5mV	6.4mA	2.5mV	8mA	2.5mV	9.6mA
Accuracy[*4]	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)
Constant Voltage Mode + Power Limit Mode						
Range	150V	4kW	150V	5kW	150V	6kW
Resolution	2.5mV	64mW	2.5mV	80mW	2.5mV	96mW
Accuracy[*4]	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)
Turbo Mode[*5]	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**ON**
Short / OCP / OPP Test Function						
Max. Current	400A	600A	500A	750A	600A	900A
Max. Power	4000W	6000W	5000W	7500W	6000W	9000W
Test Accuracy[*6]	± 1.0% of (Reading + Range)					
Short Time	100 ~ 10000ms	100 ~ 2000ms	100 ~ 10000ms	100 ~ 2000ms	100 ~ 10000ms	100 ~ 2000ms
	Continuous		Continuous		Continuous	
Setting. Accuracy	±5ms					
Short V Hi	Setting range : 0.00V - 150.00V / Resolution : 0.0025V					
Short V Lo	Setting range : 0.00V - 150.00V / Resolution : 0.0025V					
OCP Time (Tstep)	100ms	20ms	100ms	20ms	100ms	20ms
Setting. Accuracy	±5ms					
OCP ISTAR / ISTEP / ISTOP	Setting range : 0.00A - 400.00A / Resolution : 6.4mA	Setting range : 0.00A - 600.00A / Resolution : 9.6mA	Setting range : 0.00A - 500.00A / Resolution : 8.0mA	Setting range : 0.00A - 750.00A / Resolution : 12mA	Setting range : 0.00A - 600.00A / Resolution : 9.60mA	Setting range : 0.00A - 900.00A / Resolution : 14.4mA
OCP VTH	Setting range : 0.00V - 150.00V / Resolution : 0.0025 V					
OPP Time (Tstep)	100ms	20ms	100ms	20ms	100ms	20ms
Setting. Accuracy	±5ms					
OPP PSTAR / PSTEP / PSTOP	Setting range : 0.00W - 4000.0W / Resolution : 64.0mW	Setting range : 0.00W - 6000.0W / Resolution : 96.0mW	Setting range : 0.00W - 5000.0W / Resolution : 80.0mW	Setting range : 0.00W - 7500.0W / Resolution : 120mW	Setting range : 0.00W - 6000.0W / Resolution : 96mW	Setting range : 0.00W - 9000.0W / Resolution : 144mW
OPP VTH	Setting range : 0.00V - 150.00V / Resolution : 0.0025V					
BMS Test Mode*7						
Max. Current	400A	600A	500A	750A	600A	900A
Meas. Accuracy[*6]	±3.0% of (Reading + Range)					
Short test Time	0.05ms~10ms / Resolution : 0.01ms					
Meas. Accuracy	±0.02ms					
Setting Accuracy	±0.05ms					
Short ITH	Setting range : 0.19A - 200.00A / Resolution : 6.4mA	Setting range : 0.28A - 300.00A / Resolution : 9.6mA	Setting range : 0.24A - 250.00A / Resolution : 8.0mA	Setting range : 0.36A - 375.00A / Resolution : 12mA	Setting range : 0.28A - 300.00A / Resolution : 9.6mA	Setting range : 0.43A - 450.00A / Resolution : 14.4mA
OCP ISTAR	Setting range : 0.64A - 400.00A / Resolution : 6.4mA	Setting range : 0.96A - 600.00A / Resolution : 9.6mA	Setting range : 0.80A - 500.00A / Resolution : 8.0mA	Setting range : 1.20A - 750.00A / Resolution : 12mA	Setting range : 0.96A - 600.00A / Resolution : 9.6mA	Setting range : 1.44A - 900.00A / Resolution : 14.4mA
OCP TSTEP	0.05 ~ 10ms	0.05 ~ 10ms	0.05 ~ 10ms	0.05 ~ 10ms	0.05 ~ 10ms	0.05 ~ 10ms
	11 ~ 1000ms		11 ~ 1000ms		11 ~ 1000ms	
Meas. Accuracy	±0.1ms / ±0.5ms	±0.5ms	±0.1ms / ±0.5ms	±0.5ms	±0.1ms / ±0.5ms	±0.5ms
OCP ISTEP	Setting range : 0.00A - 400.00A / Resolution : 6.4mA	Setting range : 0.00A - 600.00A / Resolution : 9.6mA	Setting range : 0.00A - 500.00A / Resolution : 8.0mA	Setting range : 7.50A - 750.00A / Resolution : 12mA	Setting range : 0.00A - 600.00A / Resolution : 9.6mA	Setting range : 9.00A - 900.00A / Resolution : 14.4mA
OCP ISTOP	Setting range : 0.64A - 400.00A / Resolution : 6.4mA	Setting range : 0.96A - 600.00A / Resolution : 9.6mA	Setting range : 0.80A - 500.00A / Resolution : 8.0mA	Setting range : 1.20A - 750.00A / Resolution : 12mA	Setting range : 0.96A - 600.00A / Resolution : 9.6mA	Setting range : 1.44A - 900.00A / Resolution : 14.4mA
OCP ITH	Setting range : 0.19A - 200.00A / Resolution : 6.4mA	Setting range : 0.28A - 300.00A / Resolution : 9.6mA	Setting range : 0.24A - 250.00A / Resolution : 8.0mA	Setting range : 0.36A - 375.00A / Resolution : 12mA	Setting range : 0.28A - 300.00A / Resolution : 9.6mA	Setting range : 0.43A - 450.00A / Resolution : 14.4mA
Surge Test Mode						
Surge Current	0 ~ 600A		0 ~ 750A		0 ~ 900A	
Normal Current	0 ~ 300A		0 ~ 375A		0 ~ 450A	
Surge Time	10 ~ 2000ms		10 ~ 2000ms		10 ~ 2000ms	
Surge Step	1 ~ 5		1 ~ 5		1 ~ 5	
Batt test Mode						
Mode CC	Setting range : 0.00A - 400.00A / Resolution : 6.4mA		Setting range : 0.00A - 500.00A / Resolution : 8.0mA		Setting range : 0.00A - 600.00A / Resolution : 9.6mA	
Mode CP	Setting range : 0.00W - 4000.0W / Resolution : 64.0mW		Setting range : 0.00W - 5000.0W / Resolution : 80.0mW		Setting range : 0.00W - 6000.0W / Resolution : 96mW	
STOP Voltage(UVP)	Setting range : 0.00V - 150.00V / Resolution : 0.0025V					
STOP TIME	Setting range : OFF 1 - 99999s / Resolution : 1s					
STOP CAP.AH	Setting range : OFF 0.1 - 19999AH / Resolution : 0.1AH					
STOP CAP.WH	Setting range : OFF 0.1 - 19999WH / Resolution : 0.1WH					
SEQ Load Mode (remode only)						
Load mode	CC / CP					
Setting STEP	2 ~ 16					
Timing	20 ~ 1000 μs / 2~ 65535ms / 66 ~ 999sec					
Resolution	10 μs / 1ms / 1sec					
Dynamic Mode						
Timing						
Thigh & Tlow	0.010~9.999 / 99.99 / 999.9 / 9999ms					
Resolution	0.001 / 0.01 / 0.1 / 1ms					
Accuracy	1 μs / 10 μs / 100 μs / 1ms + 50ppm					
Slew Rate	0.0256~1.600A / μs	0.2560~16.000A / μs	0.0320~2.000A / μs	0.3200~20.000A / μs	0.0384~2.400A / μs	0.3840~24.000A / μs
Resolution	0.0064A / μs	0.064A / μs	0.008A / μs	0.08A / μs	0.0096A / μs	0.096A / μs
Min. Rise Time	25 μs(typical)					
Accuracy	±(5% of Setting)±10 μs					
Current						
Range	0 ~ 40A	40 ~ 400A	0 ~ 50A	50 ~ 500A	0 ~ 60A	60 ~ 600A
Resolution	0.64mA	6.4mA	0.8mA	8mA	0.96mA	9.6mA
Conf Key Parameter						
LDon Voltage	Setting range : 0.25V - 62.50V / Resolution : 0.25V					
LDoFF Voltage	Setting range : 0.000V - 62.250V / Resolution : 0.0025V					
Average Time	0 ~ 64					
CV Res. Speed	1 ~ 4 (Fastest)					
Measurement						
Voltage Read Back Range (5 Digital)	0 ~ 15V	15 ~ 150V	0 ~ 15V	15 ~ 150V	0 ~ 15V	15 ~ 150V
Resolution	0.25mV	2.5mV	0.25mV	2.5mV	0.25mV	2.5mV
Accuracy	± 0.025% of (Reading + Range)					
Current Read Back Range (5 Digital)	0 ~ 40A	40 ~ 400A	0 ~ 50A	50 ~ 500A	0 ~ 60A	60 ~ 600A
Resolution	0.64mA	6.4mA	0.8mA	8mA	0.96mA	9.6mA
Accuracy	± 0.05% of (Reading + Range)					
Power Read Back Range (5 Digital)	4kW		5kW		6kW	
Resolution	0.01W					
Accuracy[*4]	± 0.06% of (Reading + Range)					
General						
Typical Short Resistance	1.8mΩ		1.5mΩ		1.2mΩ	
Maximum Short Current	400A		500A		600A	
Load ON Voltage	0.25 ~ 62.5V					
Load OFF Voltage	0 ~ 62.25V					
Power Consumption	550VA					
Dimension(H x W x D)	177mm x 440mm x 745mm					
Weight	28kg					
Temperature[*8]	0 ~ 40°C					
Safety & EMC	CE					

Note *1 : The power rating specifications at ambient temperature = 25°C
Note *2 : The range is automatically or forcing to range II only in CC mode
Note *3 : If the operating current is below range 0.1%, the accuracy specification is 0.1% F.S.
Note *4 : Power range = Vrange x Irange
Note *5 : Turbo mode for up to 1.5X Current rating & Power rating support Surge, Bms, Short /OCP /OPP test function
Note *6 : The best accuracy of OCP /OPP test is Istep /Pstep=1%FS
Note *7 : Bms Test function for Battery Management System Board SHORT, OCCP and OCDP Test
Note *8 : Operating temperature range is 0~40°C, All specifications apply for 25°C±5°C, Except as noted

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MODEL	PEL-5004G-600-280		PEL-5005G-600-350		PEL-5006G-600-420	
Power*1	0 ~ 4kW	0 ~ 6kW max.*1	0 ~ 5kW	0 ~ 7.5kW max.*1	0 ~ 6kW	0 ~ 9kW max.*1
Current	0 ~ 280A	0 ~ 420A max.*1	0 ~ 350A	0 ~ 525A max.*1	0 ~ 420A	0 ~ 630A max.*1
Voltage	0 ~ 600V		0 ~ 600V		0 ~ 600V	
Min. Operating Voltage	10V@280A		10V@350A		10V@420A	
Protections						
Over Power Protection(OPP)	105%					
Over Current Protection(OCP)	104%					
Over Voltage Protection(OVP)	105%					
Over Temp Protection(OTP)	90°C±5°C					
Constant Current Mode						
Range*2	0 ~ 28A	0 ~ 280A	0 ~ 35A	0 ~ 350A	0 ~ 42A	0 ~ 420A
Resolution	0.448mA	4.48mA	0.56mA	5.6mA	0.672mA	6.72mA
Accuracy*3	± 0.05% of (Setting + Range)					
Constant Resistance Mode						
Range	128610Ω ~ 2.1435Ω	2.1435Ω ~ 0.0357Ω	102888Ω ~ 1.7148Ω	1.7148Ω ~ 0.0285Ω	85740Ω ~ 1.4290Ω	1.4290Ω ~ 0.0238Ω
Resolution	8 µS	35.73µΩ	10 µS	28.584µΩ	12 µS	23.82µΩ
Accuracy	± 0.1%(Vin / Setting)±0.1% IF.S.	± 0.1% of (Setting + Range)±0.1% IF.S	± 0.1%(Vin / Setting)±0.1% IF.S.	± 0.1% of (Setting + Range)±0.1% IF.S	± 0.1%(Vin / Setting) ±0.1% IF.S	± 0.1% of (Setting + Range) ±0.1% IF.S
Constant Voltage Mode						
Range	0 ~ 600V					
Resolution	10mV					
Accuracy	± 0.05% of (Setting + Range)					
Constant Power Mode						
Range	0 ~ 400W	400 ~ 4kW	0~500W	500~5kW	0~600W	600~6kW
Resolution	6.4mW	64mW	8mW	80mW	9.6mW	96mW
Accuracy*4	± 0.2% of (Setting + Range)					
Constant Voltage Mode + Current Limit Mode						
Range	600V	280A	600V	350A	600V	420A
Resolution	10mV	4.48mA	10mV	5.6mA	10mV	6.72mA
Accuracy*4	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)
Constant Voltage Mode + Power Limit Mode						
Range	600V	4kW	600V	5kW	600V	6kW
Resolution	10mV	64mW	10mV	80mW	10mV	96mW
Accuracy*4	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)
Turbo Mode *5	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**ON**
Short / OCP / OPP Test Function						
Max. Current	280A	420A	350A	525A	420A	630A
Max. Power	4000W	6000W	5000W	7500W	6000W	9000W
Test Accuracy*6	± 1.0% of (Reading + Range)					
Short Time	100 ~ 10000ms Continuous	100 ~ 2000ms	100 ~ 10000ms Continuous	100 ~ 2000ms	100 ~ 10000ms Continuous	100 ~ 2000ms
Setting. Accuracy	±5ms					
Short V Hi	Setting range : 0.00V - 600.00V / Resolution : 0.01V					
Short V Lo	Setting range : 0.00V - 600.00V / Resolution : 0.01V					
OCP Time (Tstep)	100ms	20ms	100ms	20ms	100ms	20ms
Setting. Accuracy	±5ms					
OCP ISTAR / ISTEP / ISTOP	Setting range : 0.00A - 280.00A / Resolution : 4.48mA	Setting range : 0.00A - 420.00A / Resolution : 6.72mA	Setting range : 0.00A - 350.00A / Resolution : 5.6mA	Setting range : 0.00A - 525.00A / Resolution : 8.4mA	Setting range : 0.00A - 420.00A / Resolution : 6.72mA	Setting range : 0.00A - 630.00A / Resolution : 10.08mA
OCP VTH	Setting range : 0.00V - 600.00V / Resolution : 0.01 V					
OPP Time(Tstep)	100ms	20ms	100ms	20ms	100ms	20ms
Setting. Accuracy	±5ms					
OPP PSTAR / PSTEP / PSTOP	Setting range : 0.00W - 4000.0W / Resolution : 64.0mW	Setting range : 0.00W - 6000.0W / Resolution : 96.0mW	Setting range : 0.00W - 5000.0W / Resolution : 80.0mW	Setting range : 0.00W - 7500.0W / Resolution : 120mW	Setting range : 0.00W - 6000.0W / Resolution : 96mW	Setting range : 0.00W - 9000.0W / Resolution : 144mW
OPP VTH	Setting range : 0.00V - 600.00V / Resolution : 0.01V					
BMS Test Mode*7						
Max. Current	280A	420A	350A	525A	420A	630A
Meas. Accuracy*6	±3.0% of (Reading + Range)					
Short test Time	0.05ms~10ms / Resolution : 0.01ms					
Meas. Accuracy	±0.02ms					
Setting Accuracy	±0.05ms					
Short ITH	Setting range : 0.13A - 140.00A / Resolution : 4.48mA	Setting range : 0.20A - 210.00A / Resolution : 6.72mA	Setting range : 0.16A - 175.00A / Resolution : 5.6mA	Setting range : 0.25A - 262.50A / Resolution : 8.4mA	Setting range : 0.20A - 210.00A / Resolution : 6.72mA	Setting range : 0.30A - 315.0 A / Resolution : 10.08mA
OCP ISTAR	Setting range : 0.44A - 280.00A / Resolution : 4.48mA	Setting range : 0.67A - 420.00A / Resolution : 6.72mA	Setting range : 0.56A - 350.00A / Resolution : 5.6mA	Setting range : 0.84A - 525.00A / Resolution : 8.4mA	Setting range : 0.67A - 420.00A / Resolution : 6.72mA	Setting range : 1.00A - 630.00A / Resolution : 10.08mA
OCP TSTEP	0.05 ~ 10ms 11 ~ 1000ms	0.05 ~ 10ms	0.05 ~ 10ms 11 ~ 1000ms	0.05 ~ 10ms	0.05 ~ 10ms 11 ~ 1000ms	0.05 ~ 10ms
Meas. Accuracy	±0.1ms / ±0.5ms	±0.5ms	±0.1ms / ±0.5ms	±0.5ms	±0.1ms / ±0.5ms	±0.5ms
OCP ISTEP	Setting range : 0.00A - 280.00A / Resolution : 4.48mA	Setting range : 0.20A - 420.00A / Resolution : 6.72mA	Setting range : 0.00A - 350.00A / Resolution : 5.6mA	Setting range : 5.25A - 525.00A / Resolution : 8.4mA	Setting range : 0.00A - 420.00A / Resolution : 6.72mA	Setting range : 6.30A - 630.00A / Resolution : 10.08mA
OCP ISTOP	Setting range : 0.44A - 280.00A / Resolution : 4.48mA	Setting range : 0.67A - 420.00A / Resolution : 6.72mA	Setting range : 0.56A - 350.00A / Resolution : 5.6mA	Setting range : 0.84A - 525.00A / Resolution : 8.4mA	Setting range : 0.67A - 420.00A / Resolution : 6.72mA	Setting range : 1.00A - 630.00A / Resolution : 10.08mA
OCP ITH	Setting range : 0.13A - 140.00A / Resolution : 4.48mA	Setting range : 0.20A - 210.00A / Resolution : 6.72mA	Setting range : 0.16A - 175.00A / Resolution : 5.6mA	Setting range : 0.25A - 262.50A / Resolution : 8.4mA	Setting range : 0.20A - 210.00A / Resolution : 6.72mA	Setting range : 0.30A - 315.00A / Resolution : 10.08mA
Surge Test Mode						
Surge Current	0 ~ 420A		0 ~ 525A		0 ~ 630A	
Normal Current	0 ~ 210A		0 ~ 262.5A		0 ~ 315A	
Surge Time	10 ~ 2000ms		10 ~ 2000ms		10 ~ 2000ms	
Surge Step	1 ~ 5		1 ~ 5		1 ~ 5	
Batt test Mode						
Mode CC	Setting range : 0.00A - 280.00A / Resolution : 4.48mA		Setting range : 0.00A - 350.00A / Resolution : 5.6mA		Setting range : 0.00A - 420.00A / Resolution : 6.72mA	
Mode CP	Setting range : 0.00W - 4000.0W / Resolution : 64.0mW		Setting range : 0.00W - 5000.0W / Resolution : 80.0mW		Setting range : 0.00W - 6000.0W / Resolution : 96mW	
STOP Voltage (UVP)	Setting range : 0.00V - 600.00V / Resolution : 0.01V					
STOP TIME	Setting range : OFF 1 - 99999s / Resolution : 1s					
STOP CAP.AH	Setting range : OFF 0.1 - 19999AH / Resolution : 0.1AH					
STOP CAP.WH	Setting range : OFF 0.1 - 19999WH / Resolution : 0.1WH					
SEQ Load Mode (remode only)						
Load Mode	CC / CP					
Setting STEP	2 ~ 16					
Timing	20 ~ 1000 µs / 2~ 65535ms / 66 ~ 999sec					
Resolution	10 µs / 1ms / 1sec					
Dynamic Mode						
Timing						
Thigh & Tlow	0.010~9.999 / 99.99 / 999.9 / 9999ms					
Resolution	0.001 / 0.01 / 0.1 / 1ms					
Accuracy	1 µs / 10 µs / 100 µs / 1ms + 50ppm					
Slew Rate	0.01792~1.120A / µs	0.1792~11.200A / µs	0.0224~1.400A / µs	0.2240~14.00A / µs	0.02688~1.680A / µs	0.2688~16.800A / µs
Resolution	0.00448A / µs	0.0448A / µs	0.0056A / µs	0.056A / µs	0.00672A / µs	0.0672A / µs
Min. Rise Time	25 µs(typical)					
Accuracy	±(5% of Setting)±10 µs					
Current						
Range	0 ~ 28A	28 ~ 280A	0 ~ 35A	35 ~ 350A	0 ~ 42A	42 ~ 420A
Resolution	0.45mA	4.48mA	0.56mA	5.6mA	0.67mA	6.72mA
Conf Key Parameter						
LDon Voltage	Setting range : 0.4V - 100.0V / Resolution : 0.4V					
LDoFF Voltage	Setting range : 0.000V - 99.60V / Resolution : 0. 01V					
Average Time	0 ~ 64					
CV Res. Speed	1 ~ 4 (Fastest)					
Measurement						
Voltage Read Back Range (5 Digital)	0 ~ 60V	60~ 600V	0 ~ 60V	60 ~ 600V	0 ~ 60V	60 ~ 600V
Resolution	1.00mV	10.0mV	1.00mV	10.0mV	1.00mV	10.0mV
Accuracy	± 0.025% of (Reading + Range)					
Current Read Back Range (5 Digital)	0 ~ 28A	28 ~ 280A	0 ~ 35A	35 ~ 350A	0 ~ 42A	42 ~ 420A
Resolution	0.448mA	4.48mA	0.56mA	5.6mA	0.672mA	6.72mA
Accuracy	± 0.05% of (Reading + Range)					
Power Read Back Range (5 Digital)	4kW		5kW		6kW	
Resolution	0.01W					
Accuracy *4	± 0.06% of (Reading + Range)					
General						
Typical Short Resistance	35.73mΩ		28.584mΩ		23.82mΩ	
Maximum Short Current	280A		350A		420A	
Load ON Voltage	0.4 ~ 100V					
Load OFF Voltage	0 ~ 99.6V					
Power Consumption	550VA					
Dimension(H x W x D)	177mm x 440mm x 745mm					
Weight	29kg					
Temperature*8	0 ~ 40°C					
Safety & EMC	CE					

Note *1 : The power rating specifications at ambient temperature = 25°C
Note *2 : The range is automatically or forcing to range II only in CC mode
Note *3 : If the operating current is below range 0.3%, the accuracy specification is 0.1% F.S.
Note *4 : Power range = Vrange x Irange

Note *5 : Turbo mode for up to 1.5X Current rating & Power rating support Surge, Bms, Short /OCP /OPP test function
Note *6 : The best accuracy of OCP /OPP test is Istep /Pstep=1%FS
Note *7 : Bms Test function for Battery Management System Board SHORT, OCCP and OCDP Test
Note *8 : Operating temperature range is 0~40°C, All specifications apply for 25°C±5°C, Except as noted

超高功率直流電子負載

MODEL	PEL-5004G-1200-160		PEL-5005G-1200-200		PEL-5006G-1200-240	
Power*1	0 ~ 4kW	0 ~ 6kW max.*1	0 ~ 5kW	0 ~ 7.5kW max.*1	0 ~ 6kW	0 ~ 9kW max.*1
Current	0 ~ 160A	0 ~ 240A max.*1	0 ~ 200A	0 ~ 300A max.*1	0 ~ 240A	0 ~ 360A max.*1
Voltage	0 ~ 1200V		0 ~ 1200V		0 ~ 1200V	
Min. Operating Voltage	15V@100A		15V@200A		15V@240A	
Protections						
Over Power Protection(OPP)	105%					
Over Current Protection(OCP)	104%					
Over Voltage Protection(OVP)	105%					
Over Temp Protection(OTP)	90°C±5°C					
Constant Current Mode						
Range*2	0 ~ 16A	0 ~ 160A	0 ~ 20A	0 ~ 200A	0 ~ 24A	0 ~ 240A
Resolution	0.256mA	2.56mA	0.32mA	3.2mA	0.384mA	3.84mA
Accuracy*3	± 0.05% of (Setting + Range)					
Constant Resistance Mode						
Range	450kΩ ~ 7.5Ω	7.5Ω ~ 0.0937Ω	360kΩ ~ 6Ω	6Ω ~ 0.075Ω	300kΩ ~ 5Ω	5Ω ~ 0.0625Ω
Resolution	2.2 µS	125µΩ	2.8 µS	100µΩ	3.3 µS	83.34µΩ
Accuracy	± 0.1%(Vin / Setting)±0.1% IF.S.	± 0.1% of (Setting + Range)±0.1% IF.S	± 0.1%(Vin / Setting)±0.1% IF.S.	± 0.1% of (Setting + Range)±0.1% IF.S	± 0.1%(Vin / Setting) ±0.1% IF.S	± 0.1% of (Setting + Range) ±0.1% IF.S
Constant Voltage Mode						
Range	0~1200V					
Resolution	20mV					
Accuracy	± 0.05% of (Setting + Range)					
Constant Power Mode						
Range	0 ~ 400W	400 ~ 4kW	0~500W	500~5kW	0~600W	600~6kW
Resolution	6.4mW	64mW	8mW	80mW	9.6mW	96mW
Accuracy*4	± 0.2% of (Setting + Range)					
Constant Voltage Mode + Current Limit Mode						
Range	1200V	160A	1200V	200A	1200V	240A
Resolution	20mV	2.56mA	20mV	3.2mA	20mV	3.84mA
Accuracy*4	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)
Constant Voltage Mode + Power Limit Mode						
Range	1200V	4kW	1200V	5kW	1200V	6kW
Resolution	20mV	64mW	20mV	80mW	20mV	96mW
Accuracy*4	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)	± 0.05% of (Setting + Range)	± 1.0% of (Setting + Range)
Turbo Mode*5	OFF	ON	OFF	ON	OFF	ON
Short / OCP / OPP Test Function						
Max. Current	160A	240A	200A	300A	240A	360A
Max. Power	4000W	6000W	5000W	7500W	6000W	9000W
Test Accuracy*6	± 1.0% of (Reading + Range)					
Short Time	100 ~ 10000ms Continuous	100 ~ 2000ms	100 ~ 10000ms Continuous	100 ~ 2000ms	100 ~ 10000ms Continuous	100 ~ 2000ms
Setting. Accuracy	±5ms					
Short V Hi	Setting range : 0.25V - 1200.0V / Resolution : 0.02V					
Short V Lo	Setting range : 0.000V - 1200.0V / Resolution : 0.02V					
OCP Time(Tstep)	100ms	20ms	100ms	20ms	100ms	20ms
Setting. Accuracy	±5ms					
OCP ISTAR / ISTEP / ISTOP	Setting range : 0.00A - 160.00A / Resolution : 2.56mA	Setting range : 0.00A - 240.00A / Resolution : 3.84mA	Setting range : 0.00A - 200.00A / Resolution : 3.2mA	Setting range : 0.00A - 300.00A / Resolution : 4.8mA	Setting range : 0.00A - 240.00A / Resolution : 3.84mA	Setting range : 0.00A - 360.00A / Resolution : 5.76mA
OCP VTH	Setting range : 0.00V - 1200.00V / Resolution : 0.02V					
OPP Time(Tstep)	100ms	20ms	100ms	20ms	100ms	20ms
Setting. Accuracy	±5ms					
OPP PSTAR / PSTEP / PSTOP	Setting range : 0.00W - 4000.0W / Resolution : 64.0mW	Setting range : 0.00W - 6000.0W / Resolution : 96.0mW	Setting range : 0.00W - 5000.0W / Resolution : 80.0mW	Setting range : 0.00W - 7500.0W / Resolution : 120mW	Setting range : 0.00W - 6000.0W / Resolution : 96mW	Setting range : 0.00W - 9000.0W / Resolution : 144mW
OPP VTH	Setting range : 0.00V - 1200.00V / Resolution : 0.02V					
BMS Test Mode*7						
Max. Current	160A	240A	200A	300A	240A	360A
Meas. Accuracy*6	±3.0% of (Reading + Range)					
Short test Time	0.05ms~10ms / Resolution : 0.01ms					
Meas. Accuracy	±0.02ms					
Setting Accuracy	±0.05ms					
Short ITH	Setting range : 0.07A - 80.00A / Resolution : 2.56mA	Setting range : 0.11A - 120.00A / Resolution : 3.84mA	Setting range : 0.09A - 100.00A / Resolution : 3.2mA	Setting range : 0.14A - 150.00A / Resolution : 4.8mA	Setting range : 0.11A - 120.00A / Resolution : 3.84mA	Setting range : 0.17A - 180.00A / Resolution : 5.76mA
OCP ISTAR	Setting range : 0.25A - 160.00A / Resolution : 2.56mA	Setting range : 0..38A - 240.00A / Resolution : 3.84mA	Setting range : 0.32A - 200.00A / Resolution : 3.2mA	Setting range : 0..48A - 300.00A / Resolution : 4.8mA	Setting range : 0.38A - 240.00A / Resolution : 3.84mA	Setting range : 0..57A - 360.00A / Resolution : 5.76mA
OCP TSTEP	0.05 ~ 10ms 11 ~ 1000ms	0.05 ~ 10ms	0.05 ~ 10ms 11 ~ 1000ms	0.05 ~ 10ms	0.05 ~ 10ms 11 ~ 1000ms	0.05 ~ 10ms
Meas. Accuracy	±0.1ms / ±0.5ms	±0.5ms	±0.1ms / ±0.5ms	±0.5ms	±0.1ms / ±0.5ms	±0.5ms
OCP ISTEP	Setting range : 0.00A - 160.00A / Resolution : 2.56mA	Setting range : 2.40A - 240.00A / Resolution : 3.84mA	Setting range : 0.00A - 200.00A / Resolution : 3.2mA	Setting range : 3.00A - 300.00A / Resolution : 4.8mA	Setting range : 0.00A - 240.00A / Resolution : 3.84mA	Setting range : 3.60A - 360.00A / Resolution : 5.76mA
OCP ISTOP	Setting range : 0.25A - 160.00A / Resolution : 2.56mA	Setting range : 0.38A - 240.00A / Resolution : 3.84mA	Setting range : 0.32A - 200.00A / Resolution : 3.2mA	Setting range : 0.48A - 300.00A / Resolution : 4.8mA	Setting range : 0.38A - 240.00A / Resolution : 3.84mA	Setting range : 0.57A - 360.00A / Resolution : 5.76mA
OCP ITH	Setting range : 0.07A - 80.00A / Resolution : 2.56mA	Setting range : 0.11A - 120.00A / Resolution : 3.84mA	Setting range : 0.09A - 100.00A / Resolution : 3.2mA	Setting range : 0.14A - 150.00A / Resolution : 4.8mA	Setting range : 0.11A - 120.00A / Resolution : 3.84mA	Setting range : 0.17A - 180.00A / Resolution : 5.76mA
Surge Test Mode						
Surge Current	0 ~ 240A		0 ~ 300A		0 ~ 360A	
Normal Current	0 ~ 120A		0 ~ 150A		0 ~ 180A	
Surge Time	10 ~ 2000ms		10 ~ 2000ms		10 ~ 2000ms	
Surge Step	1 ~ 5		1 ~ 5		1 ~ 5	
Batt test Mode						
Mode CC	Setting range : 0.00A - 160.00A / Resolution : 2.56mA		Setting range : 0.00A -200.00A / Resolution : 3.2mA		Setting range : 0.00A - 240.00A / Resolution : 3.84mA	
Mode CP	Setting range : 0.00W - 4000.0W / Resolution : 64.0mW		Setting range : 0.00W - 5000.0W / Resolution : 80.0mW		Setting range : 0.00W - 6000.0W / Resolution : 96mW	
STOP Voltage (UVP)	Setting range : 0.00V - 1200.00V / Resolution : 0.02V					
STOP TIME	Setting range : OFF 1 - 99999s / Resolution : 1s					
STOP CAP.AH	Setting range : OFF 0.1 - 19999AH / Resolution : 0.1AH					
STOP CAP.WH	Setting range : OFF 0.1 - 19999WH / Resolution : 0.1WH					
SEQ Load Mode (remode only)						
Load Mode	CC / CP					
Setting STEP	2 ~ 16					
Timing	20 ~ 1000 µs / 2~ 65535ms / 66 ~ 999sec					
Resolution	10 µs / 1ms / 1sec					
Dynamic Mode						
Timing						
Thigh & Tlow	0.010~9.999 / 99.99 / 999.9 / 9999ms					
Resolution	0.001 / 0.01 / 0.1 / 1ms					
Accuracy	1 µs / 10 µs / 100 µs / 1ms + 50ppm					
Slew Rate	0.01024 ~ 0.640A / µs	0.1024 ~ 6.400A / µs	0.0128~0.800A / µs	0.1280~8.000A / µs	0.01536~0.960A / µs	0.1536~9.600A / µs
Resolution	0.00256A / µs	0.0256A / µs	0.0032A / µs	0.032A / µs	0.00384A / µs	0.0384A / µs
Min. Rise Time	25 µs(typical)					
Accuracy	±(5% of Setting)±10 µs					
Current						
Range	0 ~ 16A	16 ~ 160A	0 ~ 20A	20 ~ 200A	0 ~ 24A	42 ~ 240A
Resolution	0.26mA	2.56mA	0.32mA	3.2mA	0.38mA	3.84mA
Conf Key Parameter						
LDon Voltage	Setting range : 1V - 250.0V / Resolution : 1V					
LDoFF Voltage	Setting range : 0.000V - 249.0V / Resolution : 0.02V					
Average Time	0 ~ 64					
CV Res. Speed	1 ~ 4 (Fastest)					
Measurement						
Voltage Read Back Range (5 Digital)	0 ~ 120V	120 ~ 1200V	0 ~ 120V	120 ~ 1200V	0 ~ 120V	120 ~ 1200V
Resolution	2.00mV	20.0mV	2.00mV	20.0mV	2.00mV	20.0mV
Accuracy	± 0.025% of (Reading + Range)					
Current Read Back Range (5 Digital)	0 ~ 16A	16 ~ 160A	0 ~ 20A	20 ~ 200A	0 ~ 24A	24 ~ 240A
Resolution	0.256mA	2.56mA	0.32mA	3.2mA	0.384mA	3.84mA
Accuracy	± 0.05% of (Reading + Range)					
Power Read Back Range (5 Digital)	4kW		5kW		6kW	
Resolution	0.01W					
Accuracy*4	± 0.06% of (Reading + Range)					
General						
Typical Short Resistance	93.75mΩ		75mΩ		62.505mΩ	
Maximum Short Current	160A		200A		240A	
Load ON Voltage	1 ~ 250V					
Load OFF Voltage	0 ~ 249V					
Power Consumption	550VA					
Dimension(H x W x D)	177mm x 440mm x 745mm					
Weight	29kg					
Temperature*8	0 ~ 40°C					
Safety & EMC	CE					

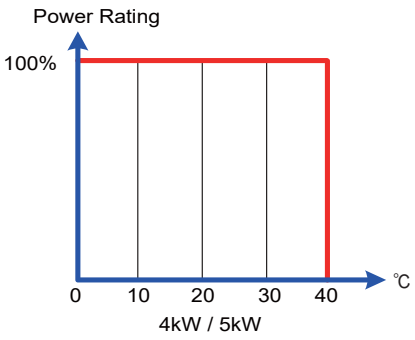
Note *1 : The power rating specifications at ambient temperature = 25°C
Note *2 : The range is automatically or forcing to range II only in CC mode
Note *3 : If the operating current is below range 0.1%, the accuracy specification is 0.1% F.S.
Note *4 : Power range = Vrange x Irange

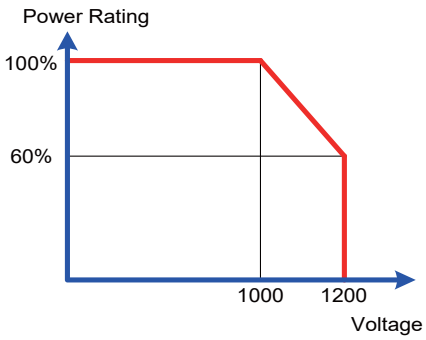
Note *5 : Turbo mode for up to 1.5X Current rating & Power rating support Surge, Bms, Short /OCP /OPP test function
Note *6 : The best accuracy of OCP /OPP test is Istep /Pstep=1%FS
Note *7 : Bms Test function for Battery Management System Board SHORT, OCCP and OCDP Test
Note *8 : Operating temperature range is 0~40°C, All specifications apply for 25°C±5°C, Except as noted

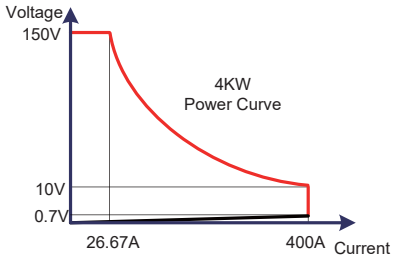
超高功率直流電子負載

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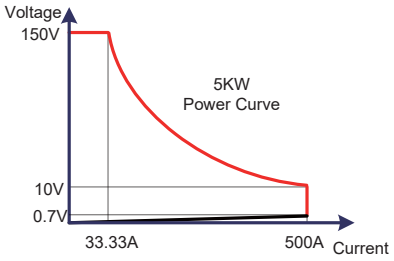




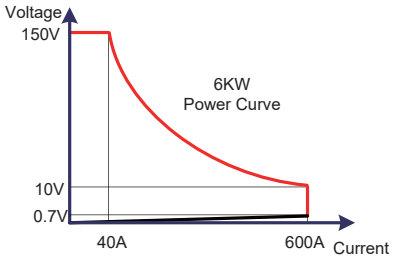




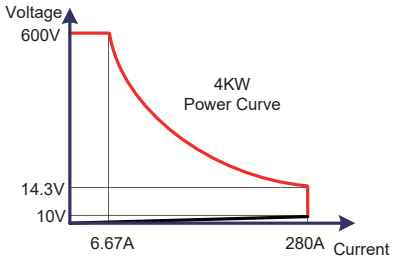
PEL-5004G-150-400



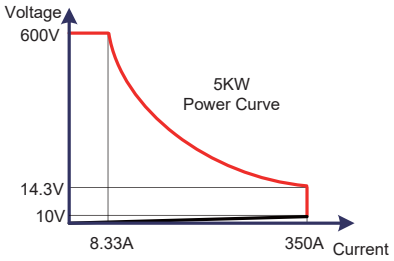
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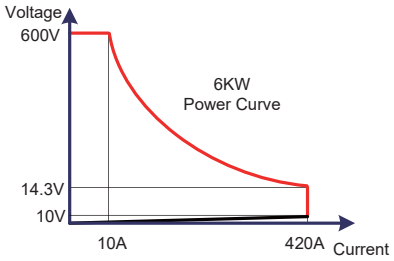
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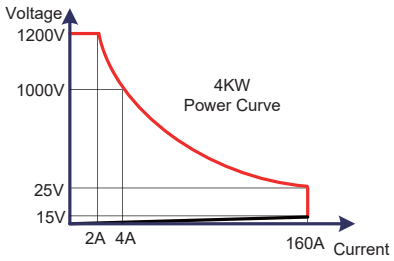
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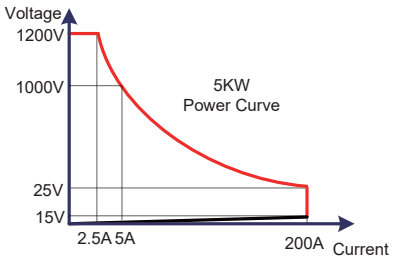
PEL-5005G-600-350



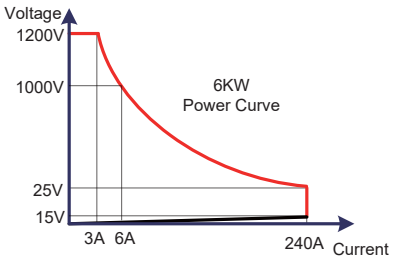
PEL-5006G-600-420



PEL-5004G-1200-160

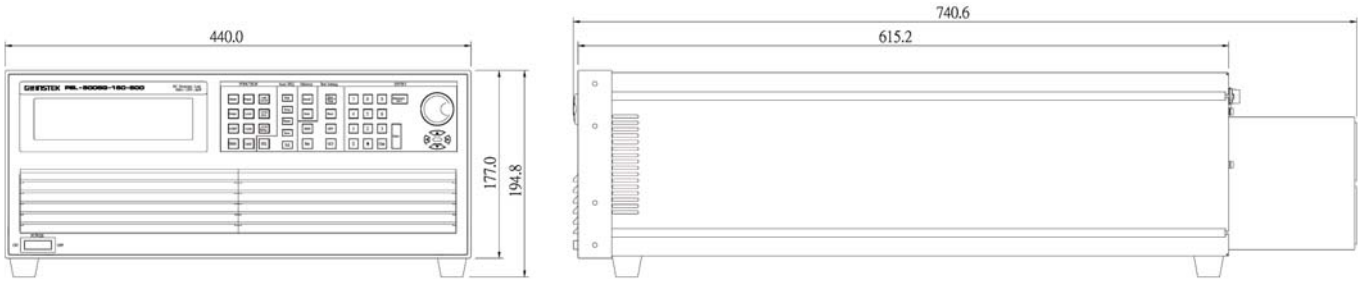


PEL-5005G-1200-200



PEL-5006G-1200-240

外 觀 尺 寸 圖



PEL-022
GPIB Card

PEL-023
RS-232 Card

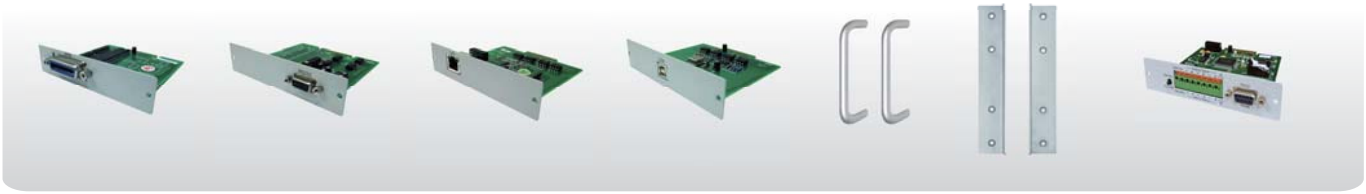
PEL-024
LAN Card

PEL-025
USB Card

PEL-028
Handles

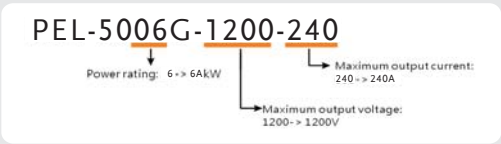
PEL-031
Rack Mount Kit

PEL-032
9923 Current Waveform Generator+ RS232 Interface

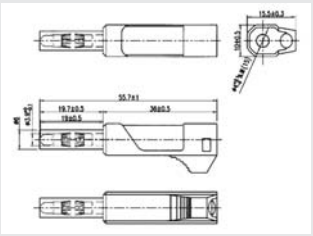


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PEL-5004G-150-400	150V/400A/4000W	超高功率直流電子負載
PEL-5005G-150-500	150V/500A/5000W	超高功率直流電子負載
PEL-5006G-150-600	150V/600A/6000W	超高功率直流電子負載
PEL-5004G-600-280	600V/280A/4000W	超高功率直流電子負載
PEL-5005G-600-350	600V/350A/5000W	超高功率直流電子負載
PEL-5006G-600-420	600V/420A/6000W	超高功率直流電子負載
PEL-5004G-1200-160	1200V/160A/4000W	超高功率直流電子負載
PEL-5005G-1200-200	1200V/200A/5000W	超高功率直流電子負載
PEL-5006G-1200-240	1200V/240A/6000W	超高功率直流電子負載



STANDARD ACCESSORIES
PEL-5000G Series operation manual
BANANA PLUGS : Please refer to Fig.1 x 1
BNC – BNC CABLE : BNC to BNC CABLE, 1m x 1
HD-DSUB : 15PIN Parallel wire Parallel Wire x 1
PEL-028 HANDLES, U-shaped Handle (fixed to the bracket)
PEL-031 Rack Mount Kit For PEL-5000G



OPTIONAL ACCESSORIES

PEL-022 GPIB Card
PEL-023 RS-232 Card
PEL-024 LAN Card
PEL-025 USB Card
PEL-030 GPIB+RS-232 Card
PEL-032 9923 Current Waveform Generator + RS232 Interface
GTL-246 USB Cable, USB 2.0, A-B Type, 1200mm
GTL-248 GPIB Cable, Double Shielded, 2000mm
GTL-250 GPIB Cable, Double Shielded, 600mm

Note: * Regarding the product delivery date, please contact your regional sales representative.

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