

PEL-2000A Specifications

The specifications apply when the PEL-2000A is powered on for at least 30 minutes under +20°C~+30°C.

PEL-2020A / PEL-2030A / PEL-2040A / PEL-2041A

	PEL-2020A(100Wx2)		PEL-2030A(250W/30W)			PEL-2040A		PEL-2041A		
CHANNEL	L/R	L/R	Left	Right	Right	one channel		one channel		
RANGE	LOW	HIGH	LOW	LOW	HIGH	LOW	HIGH	LOW	HIGH	
POWER	100W	100W	30W	250W	250W	350W		350W		
CURRENT	0~2A	0~20A	0~5A	0~4A	0~40A	0~7A	0~70A	0~1A	0~10A	
VOLTAGE	0~80V		0~80V			0~80V		0~500V		
MIN.OPERATING VOLTAGE(dc)(Typ.)	0.4V at 2A	0.8V at 20A	0.8V at 5A	0.4V at 4A	0.8V at 40A	0.4V at 7A	0.8V at 70A	1V at 1A	2V at 10A	
	0.2V at 1A	0.4V at 10A	0.4V at 2.5A	0.2V at 2A	0.4V at 20A	0.2V at 3.5A	0.4V at 35A	0.5V at 0.5A	1V at 5A	
STATIC MODE										
CONSTANT CURRENT MODE										
	Operating Range	0~2A	0~20A	0~5A	0~4A	0~40A	0~7A	0~70A	0~1A	0~10A
	Setting Range	0~2.04A	0~20.4A	0~5.1A	0~4.08A	0~40.8A	0~7.14A	0~71.4A	0~1.02A	0~10.2A
	Resolution	0.1mA	1mA	0.125mA	0.1mA	1mA	0.2mA	2mA	0.05mA	0.5mA
	Accuracy	±(0.1% set + 0.1%F.S.*1)	±(0.1% set + 0.2%F.S.)	±(0.1% set + 0.1%F.S)	±(0.1% set + 0.1%F.S.*1)	±(0.1% set + 0.2%F.S)	±(0.1% set + 0.1%F.S.*1)	±(0.1% set + 0.2%F.S)	±(0.1% set + 0.1%F.S.*1)	±(0.1% set + 0.2%F.S)
CONSTANT RESISTANCE MODE										
	Operating Range	0.075Ω~300Ω(100W/16V)		0.3Ω~1.2KΩ(30W/16V)		0.0375Ω~150Ω(250W/16V)		0.025Ω~100Ω(350W/16V)		1.25Ω~5KΩ(350W/125V)
		3.75Ω~15KΩ(100W/80V)		15Ω~60KΩ(30W/80V)		1.875Ω~7.5KΩ(250W/80V)		1.25Ω~5KΩ(350W/80V)		50Ω~200KΩ(350W/500V)
	Setting Range	0.075Ω~300Ω(100W/16V)		0.3Ω~1.2KΩ(30W/16V)		0.0375Ω~150Ω(250W/16V)		0.025Ω~100Ω(350W/16V)		1.25Ω~5KΩ(350W/125V)
		3.75Ω~15KΩ(100W/80V)		15Ω~60KΩ(30W/80V)		1.875Ω~7.5KΩ(250W/80V)		1.25Ω~5KΩ(350W/80V)		50Ω~200KΩ(350W/500V)
Resolution*1	0.333mS(100W/16V)		83.333uS(30W/16V)		0.666mS(250W/16V)		1mS(350W/16V)		20uS(350W/125V)	

	6.667uS(100W/80V)	1.666uS(30W/80V)	13.333uS(250W/80V)	20uS(350W/80V)	0.5uS(350W/500V)
Accuracy*2 With $\geq 2.5V$ at input	300 Ω : $\pm(0.2\%set + 0.1S)$	1.2K Ω : $\pm(0.2\%set + 0.1S)$	150 Ω : $\pm(0.2\%set + 0.1S)$	100 Ω : $\pm(0.2\%set + 0.1S)$	5K Ω : $\pm(0.2\%set + 0.02S)$
	15K Ω : $\pm(0.1\%set + 0.01S)$	60K Ω : $\pm(0.1\%set + 0.01S)$	7.5K Ω : $\pm(0.1\%set + 0.01S)$	5K Ω : $\pm(0.1\%set + 0.01S)$	200K Ω : $\pm(0.1\%set + 0.005S)$

NOTE : *1 : S (siemens) is the unit of conductance, equal to one reciprocal ohm.

*2 : Accuracy must be calculated in conductivity units.

CONSTANT VOLTAGE + CONSTANT CURRENT MODE

Operating Range	1~80V	1~16V	1~80V	1~16V	1~80V	1~16V	1~80V	1~16V	2.5~500V	2.5~125V
Setting Range	0~81.6V	0~16.32V	0~81.6V	0~16.32V	0~81.6V	0~16.32V	0~81.6V	0~16.32V	0~510V	0~127.5V
Resolution	2mV	0.4mV	2mV	0.4mV	2mV	0.4mV	2mV	0.4mV	10mV	2.5mV
Accuracy	$\pm(0.05\%set + 0.1\%F.S.)$		$\pm(0.05\%set + 0.1\%F.S.)$		$\pm(0.05\%set + 0.1\%F.S.)$		$\pm(0.05\%set + 0.1\%F.S.)$		$\pm(0.05\%set + 0.1\%F.S.)$	
Current Setting Range	0~2.04A	0~20.4A	0~5.1A		0~4.08A	0~40.8A	0~7.14A	0~71.4A	0~1.02A	0~10.2A
Resolution	0.1mA	1mA	0.125mA		0.1mA	1mA	0.2mA	2mA	0.05mA	0.5mA
Accuracy	$\pm(0.1\%set + 0.1\%F.S.^{*1})$	$\pm(0.1\%set + 0.2\%F.S.)$	$\pm(0.1\%set + 0.2\%F.S.)$		$\pm(0.1\%set + 0.1\%F.S.^{*1})$	$\pm(0.1\%set + 0.2\%F.S.)$	$\pm(0.1\%set + 0.1\%F.S.^{*1})$	$\pm(0.1\%set + 0.2\%F.S.)$	$\pm(0.1\%set + 0.1\%F.S.^{*1})$	$\pm(0.1\%set + 0.2\%F.S.)$

CONSTANT POWER MODE + CONSTANT CURRENT MODE

Operating Range	1~10W	1~100W	1~30W	1~25W	1~250W	1~35W	1~350W	1~35W	1~350W
Setting Range	0~10.2W	0~102W	0~30.6W	0~25.5W	0~255W	0~35.7W	0~357W	0~35.7W	0~357W
Resolution	1mW	10mW	1mW	1mW	10mW	1mW	10mW	1mW	10mW
Accuracy	$\pm(0.5\%set + 0.5\%F.S.^{*1})$	$\pm(0.5\%set + 0.5\%F.S.)$	$\pm(0.5\%set + 0.5\%F.S.)$	$\pm(0.5\%set + 0.5\%F.S.^{*1})$		$\pm(0.5\%set + 0.5\%F.S.^{*1})$	$\pm(0.5\%set + 0.5\%F.S.)$	$\pm(0.5\%set + 0.2\%F.S.^{*1})$	$\pm(0.5\%set + 0.5\%F.S.)$
Current Setting Range	0~2.04A	0~20.4A	0~5.1A	0~4.08A	0~40.8A	0~7.14A	0~71.4A	0~1.02A	0~10.2A
Resolution	0.1mA	1mA	0.125mA	0.1mA	1mA	0.2mA	2mA	0.05mA	0.5mA
Accuracy	$\pm(0.1\%set + 0.1\%F.S.^{*1})$	$\pm(0.1\%set + 0.2\%F.S.)$	$\pm(0.1\%set + 0.2\%F.S.)$	$\pm(0.1\%set + 0.1\%F.S.^{*1})$	$\pm(0.1\%set + 0.2\%F.S.)$	$\pm(0.1\%set + 0.1\%F.S.^{*1})$	$\pm(0.1\%set + 0.2\%F.S.)$	$\pm(0.1\%set + 0.1\%F.S.^{*1})$	$\pm(0.1\%set + 0.2\%F.S.)$

NOTE : *1 : F.S. = Full scale of H Range

DYNAMIC MODE

T1&T2	0.025mS ~ 10mS / Res : 1uS	0.025mS ~ 10mS / Res : 1uS	0.025mS ~ 10mS / Res : 1uS	0.025mS ~ 10mS / Res : 1uS
	10mS ~ 30S / Res : 1mS	10mS ~ 30S / Res : 1mS	10mS ~ 30S / Res : 1mS	10mS ~ 30S / Res : 1mS

	Accuracy	1uS / 1mS ± 100ppm		1uS / 1mS + 100ppm			1uS / 1mS ± 100ppm		1uS / 1mS ± 100ppm	
CONSTANT CURRENT MODE										
Slew Rate	0.32 ~ 80mA/uS	3.2 ~ 800mA/uS	0.8 ~ 200mA/uS	0.64 ~ 160mA/uS	6.4 ~ 1600mA/uS	0.001 ~ 0.28A/uS	0.01 ~ 2.8A/uS	0.16 ~ 40mA/uS	1.6 ~ 400mA/uS	
Slew Rate Resolution	0.32mA/uS	3.2mA/uS	0.8mA/uS	0.64mA/uS	6.4mA/uS	0.001A/uS	0.01A/uS	0.16mA/uS	1.6mA/uS	
Slew Rate Accuracy of setting	±(10% + 15us)	±(10% + 15us)	±(10% + 15us)	±(10% + 15us)	±(10% + 15us)	±(10% + 15us)	±(10% + 15us)	±(10% + 15us)	±(10% + 15us)	
Current Setting Range	0~2.04A	0~20.4A	0~5.1A	0~4.08A	0~40.8A	0~7.14A	0~71.4A	0~1.02A	0~10.2A	
Current Resolution	0.1mA	1mA	0.125mA	0.1mA	1mA	0.2mA	2mA	0.05mA	0.5mA	
Current Accuracy	±0.4% F.S.		±0.4% F.S.			±0.4% F.S.		±0.4% F.S.		
CONSTANT RESISTANCE MODE										
Slew Rate	3.2 ~ 800mA/uS		0.8 ~ 200mA/uS	6.4 ~ 1600mA/uS		0.01 ~ 2.8A/uS		1.6 ~ 400mA/uS		
Slew Rate Resolution	3.2mA/uS		0.8mA/uS	6.4mA/uS		0.01A/uS		1.6mA/uS		
Slew Rate Accuracy of setting	±(10% + 50us)		±(10% + 50us)			±(10% + 50us)		±(10% + 50us)		
Resistance Setting Range	0.075Ω~300Ω(100W/16V)		0.3Ω~1.2KΩ(30W/16V)	0.0375Ω~150Ω(250W/16V)		0.025Ω~100Ω(350W/16V)		1.25Ω~5KΩ(350W/125V)		
	3.75Ω~15K(100W/80V)		15Ω~60K(30W/80V)	1.875Ω~7.5K(250W/80V)		1.25Ω~5K(350W/80V)		50Ω~200K(350W/500V)		
Resistance Resolution	0.333mS(100W/16V)		83.333uS(30W/16V)	0.666mS(250W/16V)		1mS(350W/16V)		20uS(350W/125V)		
	6.667uS(100W/80V)		1.666uS(30W/80V)	13.333uS(250W/80V)		20 uS(350W/80V)		0.5uS(350W/500V)		
Resistance Accuracy	300Ω : ±(0.5%set + 0.1S)		1.2KΩ : ±(0.5%set + 0.1S)	150Ω : ±(0.5%set + 0.1S)		100Ω : ±(0.5%set + 0.1S)		5KΩ : ±(0.5%set + 0.02S)		
	15KΩ: ±(0.5%set + 0.01S)		60KΩ: ±(0.5%set + 0.01S)	7.5KΩ: ±(0.5%set + 0.01S)		5KΩ: ±(0.5%set + 0.01S)		200KΩ: ±(0.5%set + 0.005S)		
MEASUREMENT										
VOLTAGE READBACK										
Range	0~16V	0~80V	0~16V	0~80V	0~16V	0~80V	0~16V	0~80V	0~125V	0~500V
Resolution	0.32mV	1.6mV	0.32mV	1.6mV	0.32mV	1.6mV	0.32mV	1.6mV	2.5mV	10mV
Accuracy	±(0.025%set + 0.025% F.S.)		±(0.025%set + 0.025% F.S.)			±(0.025%set + 0.025% F.S.)		±(0.025%set + 0.025% F.S.)		
CURRENT READBACK										

Range	0~2A	0~20A	0~5A	0~4A	0~40A	0~7A	0~70A	0~1A	0~10A
Resolution	0.04mA	0.4mA	0.1mA	0.08mA	0.8mA	0.14mA	1.4mA	0.02mA	0.2mA
Accuracy	±(0.05%set + 0.05% F.S.*2)		±(0.05%set + 0.05% F.S.*2)			±(0.05%set + 0.05% F.S.*2)		±(0.05%set + 0.05% F.S.*2)	

POWER READBACK

Range	0~10W	0~100W	0~30W	0~25W	0~250W	0~35W	0~350W	0~35W	0~350W
Accuracy	±(0.1%set + 0.1% F.S.*1)		±(0.1%set + 0.1% F.S.*1)	±(0.1%set + 0.1% F.S.*1)		±(0.1%set + 0.1% F.S.*1)		±(0.1%set + 0.1% F.S.*1)	

NOTE : *1 : Power F.S. = Vrange F.S. x Irange F.S.

*2 : F.S. = Full scale of H Range

PROTECTIVE
Over Power Protection

Range	1~102W	0.9~30.6W	1.25~255W	1.75~357W	1.75~357W
Resolution	0.5W	0.15W	1.25W	1.75W	1.75W
Accuracy	±(2%set + 0.25%F.S)		±(2%set + 0.25%F.S)	±(2%set + 0.25%F.S)	

Over Current Protection

Range	0.25~20.4A	0.0625~5.1A	0.5~40.8A	0.875~71.4A	0.125~10.2A
Resolution	0.05A	0.0125A	0.1A	0.175A	0.025A
Accuracy	±(2%set + 0.25%F.S)		±(2%set + 0.25%F.S)	±(2%set + 0.25%F.S)	

Over Voltage Protection

Range	1~81.6V	1~81.6V	1~81.6V	1~81.6V	2.5~510V
Resolution	0.2V	0.2V	0.2V	0.2V	1.25V
Accuracy	±(2%set + 0.25%F.S)		±(2%set + 0.25%F.S)	±(2%set + 0.25%F.S)	
Over Temperature Protection	≒85°C		≒85°C		≒85°C

Rated Power Protection

Value	110W	33W	275W	385W	385W
Accuracy	±5%set		±5%set	±5%set	

GENERAL

SHORT CIRCUIT											
	Current(CC)	≐2.2/2A	≐22/20A	≐5.5/5A		≐4.4/4A	≐44/40A	≐7.7/7A	≐77/70A	≐1.1/1A	≐11/10A
	Voltage(CV)	≐ 0V	≐ 0V	≐ 0V		≐ 0V	≐ 0V	≐ 0V	≐ 0V	≐ 0V	≐ 0V
	Resistance(CR)	≐3.75Ω	≐0.075Ω	≐15Ω	≐0.3Ω	≐1.875Ω	≐0.0375Ω	≐1.25Ω	≐0.025Ω	≐50Ω	≐1.25Ω
INPUT RESISTANCE(LOAD OFF)		500KΩ(Typical)		500KΩ(Typical)			500KΩ(Typical)		500KΩ(Typical)		
POWER SOURCE		100-120Vac/ 200-240Vac (90-132Vac/ 180-250Vac) 47~63Hz									
WEIGHT		APPROX. 3.8kg									
DIMENSIONS & WEIGHT(PEL-2002A)		272(W) X 200(H) X 581(D) mm; Approx. 16.1kg(Full modules)					272(W) X 200(H) X 581(D) mm; Approx. 16.1kg(Full modules)				
DIMENSIONS & WEIGHT(PEL-2004A)		435(W) X 200(H) X 581(D) mm; Approx. 24.8kg(Full modules)					435(W) X 200(H) X 581(D) mm; Approx. 28.4kg(Full modules)				