PROGRAMMABLE SINGLE-CHANNEL D.C. ELECTRONIC LOAD

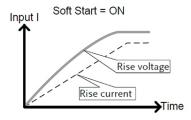


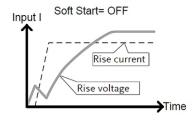


GW Instek launches new PEL-3000E series programmable single-channel electronic load. In the series, PEL-3031E provides 300W (1V \sim 150V/60A) and PEL-3032E provides 300W (2.5V \sim 500V/15A) current sink capability. Inherited from the PEL-3000 series, PEL-3031E has an easy-to-read LCD panel and user-friendly interface. This model features high speed and accurate measurement capability for electronic component, battery, portable charger and power products that require low to medium power consumption.

PEL-3000E series is not only ideal for charger/adaptor manufacturers with the requirements of over 60mA constant current load and measurement applications, but also for manufacturers of various power supply components and portable charging devices which demand the standby power consumption greater than 60mA. For manufacturers who require charger/adaptor with the constant current load and measurement applications lower than 60mA, we recommend the PEL-3000 series which has three current levels to meet low power consumption application requirements.

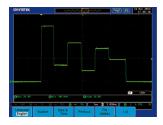
SOFT START



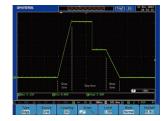


The soft start setting is used to limit the amount of input current at start-up. It can increase test reliability & stability.

SEQUENCE FUNCTION



When operating the Sequence Function, PEL-3031E follows the time and load settings of step1, step2, step3, etc. so as to realize different load current variation.



Ramp function of PEL-3000E is able to set the current transition. When turned on, the current takes on a slope form; when turned off, the current takes on a step form.

PEL-3000E Series

FEATURES

- 0~150V(PEL-3031E)Min. Operating Voltage(dc):1V at 60A, 0.5V at 30A
 0~500V(PEL-3032E)Min. Operating Voltage(dc):2.5V at 15A, 1.25V at 7.5A
- 7 Operating Modes: CC, CV, CR, CP, CC+CV, CR+CV, CP+CV
- Normal Sequence Function: Max Steps: 1000 steps/Step Time:1ms~999h 59min 59s(3599940 sec)Fast Sequence Function: Max Steps:1000 steps/Step Time:25us~600ms
- Soft Start
- BATT Test Automation:Max Test Time:999h: 59min 59s(3599940 sec):Max Test AH:9999.99Ah
- OCP, OPP Test Automation
- Max. Slew Rate: 2.5A/μs
- Dynamic Mode
- Protection: OVP, OCP, OPP, OTP, RVP, UVP
- Remote Sense
- Integrate Voltage, Current and Power Measurement Functions
- External Voltage or Resistance Control
- Rear Panel BNC, Trigger IN/OUT
- Analog External Control
- USB(Std.)/GPIB & LAN(Opt.)/RS-232 (Manufacturer Installed Only)



Rear Panel

APPLICATIONS

- Product's Output Characteristics Assessment For Power Supplies
- Battery Discharge Tests
- Quality Verification And Susceptibility Tests For Electronic Components Such as Power Switch, Relay, Connector, And Fuse, Etc.
- Diode Characteristics Tests Such as LED
- High Voltage Solar Panel And LED Driver



SPECIFICATIO			DEL 2023 E		DEL 2020E	
	Model		PEL-3031E		PEL-3032E	
	Power		300W	300W	300W	300W
	Range		Low	High	Low	High
	Voltage Current		0 ~ 150V 0 ~ 6A	0 ~ 150V 0 ~ 60A	0 ~ 500V 0 ~ 1.5A	0 ~ 500V 0 ~ 15A
	Min. Operating V	oltage(dc)	1V ~ 6A	1V ~ 60A	2.5V ~ 1.5A	2.5V ~ 15A
			.,	.,	2.5 ().5. (2.5 (1.5) (
STATIC MODE	Constant Current Mode Range		0 ~ 6A	0 ~ 60A	0 ~ 1.5A	0 ~ 15A
	Setting Range		0 ~ 6.12A	0 ~ 61.2A	0 ~ 1.53A	0 ~ 15.3A
	Resolution		0.2mA	2mA	0.05mA	0.5mA
	Accuracy		$(T^{*1})\pm(0.1\% \text{ of set } + 0.1\% \text{ of FS}) + \text{Vin/500k} \Omega$	(T*1)±(0.1% of set +	(T*1)±(0.1% of set + 0.1% of FS) +Vin/500k Ω	(T*1)±(0.1% of set +
			(Full scale of high range)	0.2% of FS)+Vin/500k Ω (Full scale of high range)	(Full scale of high range)	0.2% of FS)+Vin/500k Ω (Full scale of high range)
	Constant Resistance Mode		(1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	(rum seare or mgm rumge)	((ran seare or mgm range)
	Range		$60s \sim 0.002s(0.01666 \Omega \sim 500 \Omega)(300W/15V);$ $6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega)(300W/150V)$		6s ~ 0.0002s(0.16666 Ω ~ 5k Ω) (300W/50V); 0.6s ~ 0.00002s(1.6666 Ω ~ 50k Ω) (300W/500V)	
	Setting Range		$60s \sim 0.002s(0.01666\Omega \sim 500\Omega)(300W/15V);$		$6s \sim 0.0002s(0.16666\Omega \sim 5k\Omega)(300W/50V);$	
	Resolution(30000 Steps) Accuracy Constant Voltage Mode Range Setting Range Resolution Accuracy		6s ~ 0.0002 s (0.1666 $\Omega \sim 5$ k Ω) (300W/150V) 0.002s (15V); 0.0002s (150V) (T*1) \pm (0.3% of set + 0.6s) + 0.002ms		0.6s ~ 0.0002s(1.6666 Ω ~ 50k Ω)(300W/500V) 0.0002s(50V); 0.00002s(500V) (T^* 1)±(0.3% of set + 0.06s) + 0.002ms	
			(:)=(0:370 0: 300 : 0:03) :	0.002.1113	(:)=(0.570 0.500 : 0.005) :	0.002.11.5
			1 ~ 15V	1 ~ 150V	2.5 ~ 50V	2.5 ~ 500V
			0 ~ 15.3V 0.5mV	0 ~ 153V 5mV	0 ~ 51V 1mV	0 ~ 510V 10mV
			$(T^{*1})\pm(0.1\% \text{ of set} + 0.1\% \text{ of FS})$	(T*1)±(0.1% of set + 0.1% of FS)	$(T^{*1})\pm(0.1\% \text{ of set} + 0.1\% \text{ of FS})$	(T*1)±(0.1% of set + 0.1% of FS)
	•		(Full scale of Low range)	(Full scale of High range)	(Full scale of Low range)	(Full scale of High range)
	Constant Power N Range	∕lode	0W ~ 30W(6A)	0W ~ 300W(60A)	0W ~ 30W(1.5A)	0W ~ 300W(15A)
	Setting Range		0W ~ 30.6W	0W ~ 306W	0W ~ 30.6W	0W ~ 306W
	Resolution		1mW	10mW	1mW	10mW
	Accuracy		$(T^{*1})\pm(0.6~\%~of~set~+~1.4~\%~of~FS~(Full~scale~of~H~range)~+~Vin^2/500~k\Omega$			
DYNAMIC MODE	General T1& T2					
			0.05ms ~ 30ms/Res:1μs; 30r	ns ~ 30s/Res:1ms	0.05ms ~ 30ms/Res:1μs; 30r	ns ~ 30s/Res:1ms
	Accuracy		1μs/1ms±200ppm	1μs/1ms±200ppm	1μs/1ms±200ppm	1μs/1ms±200ppm
	Slew Rate (Acc	uracy 10%)	0.001 ~ 0.25A/μs	0.01 ~ 2.5A/μs	0.25 ~ 62.5mA/μs	2.5 ~ 625mA/μs
	Slew Rate Resolution		0.001A/μs	0.01A/μs	0.25mA/μs	2.5mA/μs
	Slew Rate Accuracy of Setting Constant Current Mode Current		±(10% + 15µs)			
			*1 Time to reach from 10 % to 90 % when the current is varied from 2 % to 100 % (20 % to 100 % in L range) of the rated current.			
			0 ~ 6A	0 ~ 60A	0 ~ 1.5A	0 ~ 15A
	Setting Range		0 ~ 6.12A	0 ~ 61.2A	0 ~ 1.53A	0 ~ 15.3A
	Current Resolution Current Accuracy Constant Resistance Mode Range		0.2mA ±0.8% FS	2mA ±0.8% FS	0.05mA ±0.8% FS	0.5mA ±0.8% FS
			10.07013	10.07013	10.07013	10.07013
			$60s \sim 0.002s(0.01666\Omega \sim 500\Omega)(300W/15V)$		$6s \sim 0.0002s(0.16666\Omega \sim 5k\Omega)(300W/50V)$	
			6s ~ 0.0002s (0.1666 Ω ~ 5k Ω		$0.6s \sim 0.0002s(0.16666\Omega \sim 50k\Omega)(300W/500V)$	
	Setting Range		$60s \sim 0.002s(0.01666\Omega \sim 500\Omega)(300W/15V)$		$6s \sim 0.0002s(0.16666\Omega \sim 5k\Omega)(300W/50V)$	
	Posistance Pos	colution	6s ~ 0.0002s (0.1666 Ω ~ 5k Ω	1) (300W/150V)	$0.6s \sim 0.00002s(1.6666\Omega \sim 5)$	50K12)(300W/500V)
	Resistance Res		6s ~ 0.0002s (0.1666 Ω ~ 5k Ω 30000 steps	^ /	30000 steps `	,, ,
MEACHDENAGNE	Resistance Acc	curacy	6s ~ 0.0002s(0.1666 Ω ~ 5k Ω 30000 steps (T*1)±(1%set + 0.6s) + 0.002	lms	30000 steps (T*1)±(1%set + 0.06s) + 0.00	2ms
MEASUREMENT		curacy Range	6s ~ 0.0002s(0.1666 Ω ~ 5k Ω 30000 steps (T*1)±(1%set + 0.6s) + 0.002	0 ~ 150V	30000 steps $(T^{*1})\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$	2ms 0 ~ 500V
MEASUREMENT	Resistance Acc	Range Resolution	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 steps (T*1) \pm (1\% set + 0.6s) + 0.002 0 \sim 15V 0.5mV$	2ms 0 ~ 150V 5mV	30000 steps (T*1)±(1%set + 0.06s) + 0.00 0 ~ 50V 2mV	2ms 0 ~ 500V 20mV
MEASUREMENT	Resistance Acc	curacy Range	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 steps (T*1) \pm (1\%set + 0.6s) + 0.002 0 \sim 15V 0.5mV(T*1) \pm (0.1\% of rdg+0.1\% of FS) $	2.ms $0 \sim 150V$ 5mV $(T^{\circ}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$	30000 steps $(T^*1)\pm(1\%\text{set} + 0.06\text{s}) + 0.00$ $0 \sim 50\text{V}$ 2mV $(T^*1)\pm(0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$
MEASUREMENT	Resistance Acc Voltage Readback	Range Resolution Accuracy	$\begin{array}{l} 6s \sim 0.0002s(0.1666 \mbox{\ensuremath{\Omega}} \sim 5k \mbox{\ensuremath{\Omega}} \\ 30000 \mbox{ steps} \\ (\mbox{Γ^{*1}}) \pm (1\% \mbox{set} + 0.6s) + 0.002 \\ 0 \sim 15V \\ 0.5 \mbox{mV} \\ (\mbox{Γ^{*1}}) \pm (0.1\% \mbox{ of rdg} + 0.1\% \mbox{ of FS}) \\ (\mbox{Full scale of Low range}) \end{array}$	2.ms $0 \sim 150V$ 5mV $(T^{\circ}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of High range)	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range)	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}\pm0.1\% \text{ of FS})$ (Full scale of High range)
MEASUREMENT	Resistance Acc	Range Resolution Accuracy	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega \times 1.00000 \text{ steps}$ $(\Gamma^{*1}) \pm (1\% \text{set} + 0.6s) + 0.002$ $0 \sim 15V$ 0.5mV $(\Gamma^{*1}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ $(Full scale of Low range)$ $0 \sim 6A$	0 ~ 150V 5mV $(T^{*})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) 0 ~ 60A	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$	2ms $0 \sim 500V$ 20mV $(T^*1)\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$
MEASUREMENT	Resistance Acc Voltage Readback	Range Resolution Accuracy Range Resolution	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega \times 100000 \text{ steps}$ $(\Gamma^{*1}) \pm (1\% \text{set} + 0.6s) + 0.002$ $0 \sim 15V$ 0.5mV $(\Gamma^{*1}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ $(Full scale \text{ of Low range})$ $0 \sim 6A$ 0.2mA	0 ~ 150V 5mV (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of High range) 0 ~ 60A 2mA	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA	$0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ 0.5mA
MEASUREMENT	Resistance Acc Voltage Readback	Range Resolution Accuracy	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 steps \\ (T^*1) \pm (1\% set + 0.6s) + 0.002 \\ 0 \sim 15V \\ 0.5mV \\ (T^*1) \pm (0.1\% of rdg + 0.1\% of FS) \\ (Full scale of Low range) \\ 0 \sim 6A \\ 0.2mA \\ (T^*1) \pm (0.1\% of rdg + 0.1\% of FS)$	2.ms $0 \sim 150V$ 5mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 60A$ 2mA $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$	$0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ 0.5mA $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$
MEASUREMENT	Resistance Acc Voltage Readback	Range Resolution Accuracy Range Resolution Accuracy	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega \times 100000 \text{ steps}$ $(\Gamma^{*1}) \pm (1\% \text{set} + 0.6s) + 0.002$ $0 \sim 15V$ 0.5mV $(\Gamma^{*1}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ $(Full scale of Low range)$ $0 \sim 6A$ 0.2mA	0 ~ 150V 5mV (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of High range) 0 ~ 60A 2mA	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA	$0 \sim 500V$ 20mV $(T^*1)\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ 0.5mA
MEASUREMENT	Resistance Acc Voltage Readback Current Readback	Range Resolution Accuracy Range Resolution Accuracy H&L Range	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 steps (T^*1) \pm (1\% set + 0.6s) + 0.002$ $0 \sim 15V$ $0.5mV$ $(T^*1) \pm (0.1\% of rdg + 0.1\% of FS)$ $(Full scale of Low range)$ $0 \sim 6A$ $0.2mA$ $(T^*1) \pm (0.1\% of rdg + 0.1\% of FS)$ $(Full scale of High range)$	0 ~ 150V 5mV $(\Gamma^{e1})\pm(0.1\% \text{ of rdg+0.1\% of FS})$ (Full scale of High range) 0 ~ 60A 2mA $(\Gamma^{e1})\pm(0.1\% \text{ of rdg+0.2\% of FS})$ (Full scale of High range)	30000 steps $(T^{\pm 1}) \pm (1\%\text{set} + 0.06\text{s}) + 0.00$ $0 \sim 50\text{V}$ 2mV $(T^{\pm 1}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of Low range) $0 \sim 1.5\text{A}$ 0.05mA $(T^{\pm 1}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of High range)	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $(0.5mA)$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range)
MEASUREMENT	Resistance Acc Voltage Readback Current Readback Power Read back	Range Resolution Accuracy Range Resolution Accuracy H&L Range	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 \text{ steps} \\ (T^{*1}) \pm (1\% \text{set} + 0.6s) + 0.002 \\ 0 \sim 15V \\ 0.5 \text{mV} \\ (T^{*1}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS}) \\ (\text{Full scale of Low range}) \\ 0 \sim 6A \\ 0.2 \text{mA} \\ (T^{*1}) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS}) \\ (\text{Full scale of High range}) \\ 0 \sim 300W \\ 0 \sim 30W$	lms $0 \sim 150V$ $5mV$ $(T^{a}) \pm (0.1\% \text{ of rdg+0.1\% of FS})$ $(Full scale of High range)$ $0 \sim 60A$ $2mA$ $(T^{a}) \pm (0.1\% \text{ of rdg+0.2\% of FS})$ $(Full scale of High range)$ $0 \sim 300W$ $0 \sim 30W$	30000 steps $(T^*1) \pm (1\%\text{set} + 0.06\text{s}) + 0.00$ $0 \sim 50\text{V}$ 2mV $(T^*1) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of Low range) $0 \sim 1.5\text{A}$ 0.05mA $(T^*1) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 300\text{W}$	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $0.5mA$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$
	Resistance Acc Voltage Readback Current Readback Power Read back CP Mode L Range Sequence(Normal	Range Resolution Accuracy Range Resolution Accuracy H&L Range	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 steps (T*1) \pm (1%set + 0.6s) + 0.002$ $0 \sim 15V$ $0.5mV$ $(T*1) \pm (0.1% of rdg+0.1% of FS)$ (Full scale of Low range) $0 \sim 6A$ $0.2mA$ $(T*1) \pm (0.1% of rdg+0.1% of FS)$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$ Normal sequence function: Max sequence fun	Ims $0 \sim 150V$ $5mV$ $(T^{e})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 60A$ $2mA$ $(T^{e})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$ $0 \sim 30W$ lax steps: $1000 \text{ steps/Step time}$: $1000 \text{ steps/Step time}$	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of High range) $0\sim300\text{W}$ $0\sim300\text{W}$ $0\sim30\text{W}$ et $1\text{ms}\sim999\text{h}59\text{min}59\text{s}(3599\text{ of S})$	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $0.5mA$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$
	Resistance Acc Voltage Readback Current Readback Power Read back CP Mode L Range	Range Resolution Accuracy Range Resolution Accuracy H&L Range	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 steps (T*1) \pm (1\% set + 0.6s) + 0.002$ $0 \sim 15V$ $0.5mV$ $(T*1) \pm (0.1\% of rdg+0.1\% of FS)$ (Full scale of Low range) $0 \sim 6A$ $0.2mA$ $(T*1) \pm (0.1\% of rdg+0.1\% of FS)$ (Full scale of High range) $0 \sim 300W$ $0 \sim 30W$ Normal sequence function: N Fast sequence function: Max Max test time: 999h: 59m: 59:	Ims $0 \sim 150V$ $5mV$ $(T^{e})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 60A$ $2mA$ $(T^{e})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$ $0 \sim 30W$ lax steps: $1000 \text{ steps/Step time}$: $1000 \text{ steps/Step time}$	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of High range) $0\sim300\text{W}$ $0\sim300\text{W}$ $0\sim30\text{W}$ et $1\text{ms}\sim999\text{h}59\text{min}59\text{s}(3599\text{ of S})$	2ms $0 \sim 500V$ $20mV$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $0.5mA$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$
	Resistance Acc Voltage Readback Current Readback Power Read back CP Mode L Range Sequence(Norma	Range Resolution Accuracy Range Resolution Accuracy H&L Range	6s ~ 0.0002s (0.1666 Ω ~ 5k Ω 30000 steps (T*1)±(1%set + 0.6s) + 0.002 0 ~ 15V 0.5mV (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of Low range) 0 ~ 6A 0.2mA (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of High range) 0 ~ 300W 0 ~ 30W Normal sequence function: M Fast sequence function: M Fast sequence function: Max 59 Max test time: 999h: 59m: 59m Max test AH: 9999.99Ah	2.ms $0 \sim 150V$ 5mV $(\Gamma^a) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 60A$ 2mA $(\Gamma^a) \pm (0.1\% \text{ of rdg} + 0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 30W$ lax steps: $1000 \text{ steps/Step time: } 2 \text{ s} (3599940 \text{ sec})$	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of High range) $0\sim300\text{W}$ $0\sim300\text{W}$ $0\sim30\text{W}$ et $1\text{ms}\sim999\text{h}59\text{min}59\text{s}(3599\text{ of S})$	2ms $0 \sim 500V$ $20mV$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $0.5mA$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$
	Resistance Acc Voltage Readback Current Readback Power Read back CP Mode L Range Sequence(Normal	Range Resolution Accuracy Range Resolution Accuracy H&L Range	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 steps (T*1) \pm (1\% set + 0.6s) + 0.002$ $0 \sim 15V$ $0.5mV$ $(T*1) \pm (0.1\% of rdg+0.1\% of FS)$ (Full scale of Low range) $0 \sim 6A$ $0.2mA$ $(T*1) \pm (0.1\% of rdg+0.1\% of FS)$ (Full scale of High range) $0 \sim 300W$ $0 \sim 30W$ Normal sequence function: N Fast sequence function: Max Max test time: 999h: 59m: 59:	2.ms $0 \sim 150V$ 5mV $(\Gamma^a) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 60A$ 2mA $(\Gamma^a) \pm (0.1\% \text{ of rdg} + 0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 30W$ lax steps: $1000 \text{ steps/Step time: } 2 \text{ s} (3599940 \text{ sec})$	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s})+0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of High range) $0\sim300\text{W}$ $0\sim300\text{W}$ $0\sim30\text{W}$ et $1\text{ms}\sim999\text{h}59\text{min}59\text{s}(3599\text{ of S})$	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $0.5mA$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$
	Resistance Acc Voltage Readback Current Readback Power Read back CP Mode L Range Sequence(Norma BATT Test Autom Test Function Soft Start In/Out Terminal	Range Resolution Accuracy Range Resolution Accuracy H&L Range	$6s \sim 0.0002s(0.1666 \Omega \sim 5k \Omega 30000 steps (T*1) \pm (1\% set + 0.6s) + 0.002$ $0 \sim 15V$ $0.5mV$ $(T*1) \pm (0.1\% of rdg+0.1\% of FS)$ (Full scale of Low range) $0 \sim 6A$ $0.2mA$ $(T*1) \pm (0.1\% of rdg+0.1\% of FS)$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$ Normal sequence function: N Fast sequence function: Max shartest time: 999h: 59m: 59m: Max test AH: 9999.99Ah OCP Autotest function, OPP Manalog External Control, Curr	2.ms $0 \sim 150V$ 5mV $(\Gamma^a) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 60A$ 2mA $(\Gamma^a) \pm (0.1\% \text{ of rdg} + 0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 30W$ lax steps: $1000 \text{ steps/Step time: } 2 \text{ s} (3599940 \text{ sec})$	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s}) + 0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of High range) $0\sim300\text{W}$ $0\sim300\text{W}$ $0\sim300\text{W}$ $10\approx10\text{ms}\sim999\text{h} 59\text{min} 59\text{s} (3599)$ $15\text{us}\sim600\text{ms}$	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $0.5mA$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$
	Resistance Acc Voltage Readback Current Readback Power Read back CP Mode L Range Sequence(Norma BATT Test Autom: Test Function Soft Start In/Out Terminal Preset Data	Range Resolution Accuracy Range Resolution Accuracy H&L Range	6s ~ 0.0002s (0.1666 Ω ~ 5k Ω 30000 steps (T*1)±(1%set + 0.6s) + 0.002 0 ~ 15V 0.5mV (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of Low range) 0 ~ 6A 0.2mA (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of High range) 0 ~ 300W 0 ~ 30W Normal sequence function: M Fast sequence function: M Fast sequence function: M Fast sequence function: M Sets time: 999h: 59m: 59m Max test time: 999h: 59m: 59m Analog External Control, Curr 10 Sets	Plans $0 \sim 150V$ $5mV$ $(T^2) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ $(Full scale \text{ of High range})$ $0 \sim 60A$ $2mA$ $(T^2) \pm (0.1\% \text{ of rdg} + 0.2\% \text{ of FS})$ $(Full scale \text{ of High range})$ $0 \sim 300W$ $0 \sim 300W$ lax steps: $1000 \text{ steps/Step time: } 2 \text{ s} (3599940 \text{ sec})$ Autotest Function ent Monitor Output, Trigger In	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s}) + 0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of High range) $0\sim300\text{W}$ $0\sim300\text{W}$ $0\sim300\text{W}$ $10\approx10\text{ms}\sim999\text{h} 59\text{min} 59\text{s} (3599)$ $15\text{us}\sim600\text{ms}$	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $0.5mA$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$
FUNCTION	Resistance Acc Voltage Readback Current Readback Power Read back CP Mode L Range Sequence(Norma BATT Test Autom: Test Function Soft Start In/Out Terminal Preset Data Protection	Range Resolution Accuracy Range Resolution Accuracy H&L Range	6s ~ 0.0002s (0.1666 Ω ~ 5k Ω 30000 steps (T*1)±(1%set + 0.6s) + 0.002 0 ~ 15V 0.5mV (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of Low range) 0 ~ 6A 0.2mA (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of High range) 0 ~ 300W 0 ~ 30W Normal sequence function: MX sequence function: MX sequence function: MX sets time: 999h: 59m: 59m MAX test AH: 9999.99Ah OCP Autotest function, OPP AY Sex Analog External Control, Curr 10 Sets OCP, OPP, UVP, OVP, OTP, F	2.ms $0 \sim 150V$ 5mV $(T^2) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 60A$ 2mA $(T^2) \pm (0.1\% \text{ of rdg} + 0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 30W$ lax steps: $1000 \text{ steps/Step time: } 2 \text{ s}(3599940 \text{ sec})$ Autotest Function ent Monitor Output, Trigger In RVP	30000 steps $(T^*1)\pm(1\%\text{set}+0.06\text{s}) + 0.00$ $0\sim50\text{V}$ 2mV $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of Low range) $0\sim1.5\text{A}$ 0.05mA $(T^*1)\pm(0.1\%\text{ of rdg}+0.1\%\text{ of FS})$ (Full scale of High range) $0\sim300\text{W}$ $0\sim300\text{W}$ $0\sim300\text{W}$ $10\approx10\text{ms}\sim999\text{h} 59\text{min} 59\text{s} (3599)$ $15\text{us}\sim600\text{ms}$	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ $0.5mA$ $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$
	Resistance Acc Voltage Readback Current Readback Power Read back CP Mode L Range Sequence(Norma BATT Test Autom: Test Function Soft Start In/Out Terminal Preset Data	Range Resolution Accuracy Range Resolution Accuracy H&L Range	6s ~ 0.0002s (0.1666 Ω ~ 5k Ω 30000 steps (T*1)±(1%set + 0.6s) + 0.002 0 ~ 15V 0.5mV (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of Low range) 0 ~ 6A 0.2mA (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of High range) 0 ~ 300W 0 ~ 300W Normal sequence function: Max 5 Max test time: 999h: 59m: 59m Max test AH: 9999.99Ah OCP Autotest function, OPP	2.ms $0 \sim 150V$ 5mV $(T^2) \pm (0.1\% \text{ of rdg} + 0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 60A$ 2mA $(T^2) \pm (0.1\% \text{ of rdg} + 0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 30W$ lax steps: $1000 \text{ steps/Step time: } 2 \text{ s}(3599940 \text{ sec})$ Autotest Function ent Monitor Output, Trigger In RVP	30000 steps (T*1)±(1%set + 0.06s) + 0.00 0 ~ 50V 2mV (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of Low range) 0 ~ 1.5A 0.05mA (T*1)±(0.1% of rdg+0.1% of FS) (Full scale of High range) 0 ~ 300W 0 ~ 30W 0 ~ 30W ue: 1ms ~ 999h 59min 59s(3599) 5us ~ 600ms	2ms $0 \sim 500V$ 20mV $(T^{*1})\pm(0.1\% \text{ of rdg}+0.1\% \text{ of FS})$ (Full scale of High range) $0 \sim 15A$ 0.5mA $(T^{*1})\pm(0.1\% \text{ of rdg}+0.2\% \text{ of FS})$ (Full scale of High range) $0 \sim 300W$ $0 \sim 300W$

Note: *1 - If the ambient temperature is over 30 °C or below 20 °C, then $T = \pm |t - 25$ °C | x = 100 C x = 100 Set If the ambient temperature is in the range of 20 °C - 30 °C, then T = 0 (t is the ambient temperature)

ORDERING INFORMATION

Specifications subject to change without notice. EL-3000EGD3DS

PEL-3031E 150V/60A/300W Programmable Single-channel D.C. Electronic Load PEL-3032E 500V/15A/300W Programmable Single-channel D.C. Electronic Load

Quick Start Guide, CD ROM (User Manual, Programming Manual)x1, Power Cord (Region dependent), Front Terminal Washers-spring Washer(M6)x2, GTL-105A Remote Sense Cables (Red x 1, Black x 1)

GTL-248 GTL-246 PEL-010 GPIB cable, 2.0m USB cable, Type A – Type B Dust Filter PEL-004 PEL-018 GPIB option LAN Card GRA-414-J Rack Mount Kit(JIS) GRA-414-E Rack Mount Kit(EIA)