

AMREL eLoad PLA Series

800 W–7.5 kW

Air-cooled programmable DC electronic load

10–1200 Vdc

- Broadest Model Selection: 800W to 7.5kW (higher power available up to 250kW Contact Factory)
- Exclusive Voltage Models: 10V to 1200V
- Multiple loads in one: Multiple ranges for voltage, current resistance and power
- Intuitive Front Panel Control: Run sequences, triggers, constant current to constant power cross over



10–1500 Adc



95

240 VAC



RS232

ETHERNET



Traditional dc Electronic Load Solutions are bulky and large in size. Most are offered with standard voltage, current and power ratings. In the ATE world, rack space is a highly coveted asset and application demands are constantly diversifying with new technology development.

AMREL's PLA Series of "Air-cooled" dc Electronic eLoads offers the industry's smallest footprint, the highest power density and current rating, along with the broadest selection of high voltage models on the market. PLA models are capable of being custom-tailored to meet your application requirements.

Key Features

Closed-case Calibration

With the eLoad line, there's no longer a need to send your electronic load back to the factory for calibration or remove dozens of screws to reach a potentiometer. Simply follow the AMREL calibration routine from the front panel and you should be back up and running in a very short period of time (some electronic test equipment needed). This will virtually eliminate downtime and eradicate the annual cost associated with shipping your eLoad back to the factory for calibration.

Individual FET Protection

To ensure the reliability of the PLA Series, AMREL's design includes individual FET protection. A programmable electronic load may contain many FETs in parallel, which can create a cascading failure if one of them was to short out. AMREL's eLoad programmable electronic load design isolates failures so other components will not be affected or stressed, increasing the system's level of protection against catastrophic failure. With individual FET protection, the MTTR is reduced and the electronic load quickly returns to full operation.

Ultra-low Voltage Operation

The PLA design allows the programmable electronic load to operate at voltage levels approaching .1V. They will typically dissipate full rated current below 1% of their maximum rated voltage. For example, a 60V unit designed to dissipate 1500A will allow the user to operate at .6V and still dissipate the full amount.

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AMETEK[®]
PROGRAMMABLE POWER

PLA Series : Product Selector

PLA Selector Guide																									
Model	AMP	5A	12A	15A	20A	30A	50A	60A	75A	100A	120A	150A	200A	240A	300A	360A	400A	500A	600A	800A	1000A	1200A	1500A		
	VOLT																								
PLA800	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								
PLA1.5K	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								
PLA2K	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								
PLA2.5K	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								
PLA3K	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								
PLA4K	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								
PLA5K	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								
PLA6K	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								
PLA7.5K	60V																								
	120V																								
	400V																								
	600V																								
	800V																								
	1000V																								

PLA Series : Product Specifications

800 W–7.5 kW

General							
Models	Power Input (MAX)	Voltage (V) (MAX)	Current (A) (MAX)	CR Low (min) Ω	CR High (max) Ω	Vmin at Imax	LxWxH & Weight
PLA800-60-300	800W	60	300	0.0125	200	0.75	2U, 21"D
PLA800-120-150	800W	120	150	0.0150	800	1.8	2U, 21"D
PLA800-400-50	800W	400	50	0.0068	8000	2.7	2U, 21"D
PLA800-600-30	800W	600	30	0.0130	20000	7.8	2U, 21"D
PLA800-800-15	800W	800	15	0.0049	53333.3	3.9	2U, 21"D
PLA800-1000-5	800W	1000	5	0.0050	200000	5	2U, 21"D
PLA1.5K-60-600	1.5KW	60	600	0.0125	100	0.75	2U, 21"D
PLA1.5K-120-300	1.5KW	120	300	0.0150	400	1.8	2U, 21"D
PLA1.5K-400-100	1.5KW	400	100	0.0068	4000	2.7	2U, 21"D
PLA1.5K-600-60	1.5KW	600	60	0.0130	10000	7.8	2U, 21"D
PLA1.5K-800-30	1.5KW	800	30	0.0049	26666.7	3.9	2U, 21"D
PLA1.5K-1000-12	1.5KW	1000	12	0.0060	83333.3	6	2U, 21"D
PLA2K-60-600	2KW	60	600	0.0100	100	0.6	3U, 25.5"D
PLA2K-120-400	2KW	120	400	0.0150	300	1.8	3U, 25.5"D
PLA2K-400-150	2KW	400	150	0.0068	2666.7	2.7	3U, 25.5"D
PLA2K-600-100	2KW	600	100	0.0140	6000	8.4	3U, 25.5"D
PLA2.5K-60-1000	2.5KW	60	1000	0.0100	60	0.6	3U, 25.5"D
PLA2.5K-120-600	2.5KW	120	600	0.0150	200	1.8	3U, 25.5"D
PLA2.5K-400-200	2.5KW	400	200	0.0068	2000	2.7	3U, 25.5"D
PLA2.5K-600-120	2.5KW	600	120	0.0130	5000	7.8	3U, 25.5"D
PLA3K-60-1000	3KW	60	1000	0.0100	60	0.6	3U, 25.5"D
PLA3K-120-800	3KW	120	800	0.0133	150	1.6	3U, 25.5"D
PLA3K-400-300	3KW	400	300	0.0068	1333.3	2.7	3U, 25.5"D
PLA3K-600-150	3KW	600	150	0.0120	4000	7.2	3U, 25.5"D
PLA3K-800-50	3KW	800	50	0.0031	16000	2.5	3U, 25.5"D
PLA3K-1000-30	3KW	1000	30	0.0060	33333.3	6	3U, 25.5"D
PLA4K-60-1200	4KW	60	1200	0.0100	50	0.6	4U, 25.5"D
PLA4K-120-1000	4KW	120	1000	0.0150	120	1.8	4U, 25.5"D
PLA4K-400-360	4KW	400	360	0.0068	1111.1	2.7	4U, 25.5"D
PLA4K-600-200	4KW	600	200	0.0130	3000	7.8	4U, 25.5"D
PLA5K-60-1200	5KW	60	1200	0.0100	50	0.6	4U, 25.5"D
PLA5K-120-1200	5KW	120	1200	0.0150	100	1.8	4U, 25.5"D
PLA5K-400-400	5KW	400	400	0.0070	1000	2.8	4U, 25.5"D
PLA5K-600-240	5KW	600	240	0.0130	2500	7.8	4U, 25.5"D
PLA5K-800-100	5KW	800	100	0.0045	8000	3.6	4U, 25.5"D
PLA5K-1000-50	5KW	1000	50	0.0060	20000	6	4U, 25.5"D
PLA6K-60-1500	6KW	60	1500	0.0100	40	0.6	6U, 25.5"D
PLA6K-120-1500	6KW	120	1500	0.0150	80	1.8	6U, 25.5"D
PLA6K-400-500	6KW	400	500	0.0075	800	3	6U, 25.5"D
PLA6K-600-300	6KW	600	300	0.0140	2000	8.4	6U, 25.5"D
PLA7.5K-60-1500	7.5KW	60	1500	0.0100	40	0.6	6U, 25.5"D
PLA7.5K-120-1500	7.5KW	120	1500	0.0150	80	1.8	6U, 25.5"D
PLA7.5K-400-600	7.5KW	400	600	0.0068	666.7	2.7	6U, 25.5"D
PLA7.5K-600-400	7.5KW	600	400	0.0140	1500	8.4	6U, 25.5"D
PLA7.5K-800-150	7.5KW	800	150	0.0045	5333.3	3.6	6U, 25.5"D
PLA7.5K-1000-75	7.5KW	1000	75	0.0060	13333.3	6	6U, 25.5"D

Note: Higher powers available. Contact your sales rep for PLA options or see PLW for water cooled solutions.

Option

I = Isolated Analog Programming

E = Ethernet (10/100 Lan) & USB 2.0 Interface

-XX = Ultra Low Range (xx = UL current rating)

PLA Series : Product Specifications

800 W–7.5 kW

Constant Resistance Mode						
Models	CRH Range Ω		CRM Range Ω		CRL Range Ω	
	Rmin	Rmax	Rmin	Rmax	Rmin	Rmax
PLA800-60-300	2.0	200	0.20	50	0.0025	0.20
PLA800-120-150	8.0	800	0.80	200	0.0120	0.80
PLA800-400-50	80.0	8000	8.00	2000	0.0540	8.00
PLA800-600-30	200.0	20000	20.00	5000	0.2600	20.00
PLA800-800-15	533.3	53333.33	53.33	13333.33	0.2600	53.33
PLA800-1000-5	2000.0	200000	200.00	50000	1.0000	200.00
PLA1.5K-60-600	1.0	100	0.10	25	0.0013	0.10
PLA1.5K-120-300	4.0	400	0.40	100	0.0060	0.40
PLA1.5K-400-100	40.0	4000	4.00	1000	0.0270	4.00
PLA1.5K-600-60	100.0	10000	10.00	2500	0.1300	10.00
PLA1.5K-800-30	266.7	26666.66	26.67	6666.66	0.1300	26.67
PLA1.5K-1000-12	833.3	83333.33	83.33	20833.33	0.5000	83.33
PLA2K-60-600	1.0	100	0.10	25	0.0010	0.10
PLA2K-120-400	3.0	300	0.30	75	0.0045	0.30
PLA2K-400-150	26.7	2666.66	2.67	666.66	0.0180	2.67
PLA2K-600-100	60.0	6000	6.00	1500	0.0840	6.00
PLA2.5K-60-1000	0.6	60	0.06	15	0.0006	0.06
PLA2.5K-120-600	2.0	200	0.20	50	0.0030	0.20
PLA2.5K-400-200	20.0	2000	2.00	500	0.0135	2.00
PLA2.5K-600-120	50.0	5000	5.00	1250	0.0650	5.00
PLA3K-60-1000	0.6	60	0.06	15	0.0006	0.06
PLA3K-120-800	1.5	150	0.15	37.5	0.0020	0.15
PLA3K-400-300	13.3	1333.33	1.33	333.3	0.0090	1.33
PLA3K-600-150	40.0	4000	4.00	1000	0.0480	4.00
PLA3K-800-50	160.0	16000	16.00	4000	0.0500	16.00
PLA3K-1000-30	333.3	33333.33	33.33	8333.33	0.2000	33.33
PLA4K-60-1200	0.5	50	0.05	12.5	0.0005	0.05
PLA4K-120-1000	1.2	120	0.12	30	0.0018	0.12
PLA4K-400-360	11.1	1111.11	1.11	277.8	0.0075	1.11
PLA4K-600-200	30.0	3000	3.00	750	0.0390	3.00
PLA5K-60-1200	0.5	50	0.05	12.5	0.0005	0.05
PLA5K-120-1200	1.0	100	0.10	25	0.0015	0.10
PLA5K-400-400	10.0	1000	1.00	250	0.0070	1.00
PLA5K-600-240	25.0	2500	2.50	625	0.0325	2.50
PLA5K-800-100	80.0	8000	8.00	2000	0.0360	8.00
PLA5K-1000-50	200.0	20000	20.00	5000	0.1200	20.00
PLA6K-60-1500	0.4	40	0.04	10	0.0004	0.04
PLA6K-120-1500	0.8	80	0.08	20	0.0012	0.08
PLA6K-400-500	8.0	800	0.80	200	0.0060	0.80
PLA6K-600-300	20.0	2000	2.00	500	0.0280	2.00
PLA7.5K-60-1500	0.4	40	0.04	10	0.0004	0.04
PLA7.5K-120-1500	0.8	80	0.08	20	0.0012	0.08
PLA7.5K-400-600	6.7	666.7	0.67	166.7	0.0045	0.67

Constant Resistance Mode	
Transient Time Range : CRM / CRH	Same As CC Mode
Transient Time Range : CRL	Same As CV Mode
Temperature Coefficient : CRM / H	300 ppm / °C of Minimum Resistance
Temperature Coefficient : CRL	300 ppm / °C of Maximum Resistance

Constant Resistance Mode - Program : CR Resolution*2 - 1/16000 Of Rated Value

*1 All Mode Specification measure by 25°C room temperature unless otherwise specified
 *2 Transient Mode Specification must be x2

PLA Series : Product Specifications

Constant Voltage Mode	
CVHigh Range	(0-V) V
CVMedium Range	0 - (V / 2) V
CVLow Range	0 - (/ 10) V
Temp Coefficient	100 ppm / °C of Rated Voltage
Transient Time Range	
Fast Band(default, Osc1)	0.500 ~ 51.19 ms
Slow Band(Osc2, Osc3)	0.500 ~ 511.9 ms
CV Resolutions*2	1/16000 of rated voltage
CV Accuracy*2 (CVH, CVM, CVL)	0.05% +/- (0.1% x Vmax) V
Display Specifications	
CV Resolution	1/16000 of Rated Voltage
CV Accuracy (CVH, CVM, CCL)	0.05% +/- (0.1% x V) V
Constant Power Mode	
CPHigh Range	(0-P) W
CPMedium Range	0 - (P/2) W @ DC input current ≤ (I/2) A
CPLow Range	0 - (P/10) W @ DC input current ≤ (I/10) A
Transient Time Range	Same as CC Mode
Temperature Coefficient	300 ppm / °C of Rated Power
Constant Power Mode : Program	
CPHigh Accuracy*2	1.00% +/- (Px0.5%) W @ input current > (I/20) A, input voltage > (V/10) V
CPMedium Range	1.00% +/- (Px0.5%) W @ input current > (I/100) A, input voltage > (V/10) V
CPLow Range	1.00% +/- (Px0.5%) W @ input current > (I/1000) A, input voltage > (V/5) V
Program	CP Resolution*2 1/16000 of Rated Power
Constant Current Mode	
CCHigh Range	0 - I A
CCMedium Range	0 - (I/2) A
CCLow Range	0 - (I/10) A
Transient Time Range	
Fast Band (default, Osc1)	0.050 ~ 51.19 ms
Slow Band (Osc2, Osc3)	0.500 ~ 511.9 ms
Temperature Coefficient	100 ppm / °C of Rated Current
Constant Current Mode : Program	
CC Resolution*2	1/16000 of rated current
CCHigh Accuracy*2 LHM	0.05% +/- (Ix0.1%) A
Constant Resistance Mode	
Transient Time Range : CRM / CRH	Same As CC Mode
Transient Time Range : CRL	Same As CV Mode
Temperature Coefficient : CRM / H	300 ppm / °C of Minimum Resistance
Temperature Coefficient : CRL	300 ppm / °C of Maximum Resistance
Constant Resistance Mode - Program	
CR Resolution*2	1/16000 of rated value

External Programming Mode	
Monitor Output Signal	0-10 Volts output for 0 to full scale value
VMON Accuracy	0.10% +/- (Vx0.1%) V
IMON Accuracy	0.10% +/- (Ix0.1%) A
Analog Program	0~10 Volts Input yields 0 -- selected full scale loading in all modes
Accuracy	Same As Internal ± 0.1% Rating
Input Impedance	200 k Ω ± 1 %
BandWidth(-3dB)	Limited By Internal Transient Time
Remote Interface	GPIB / RS-232 / ETHERNET / USB
Programmable Protection	
Power (OPP)	
Range	(Px1.05/800) ~ (Px1.05) W
Resolution	(Px1.05/8000) W
Accuracy	0.50% +/- (P x 21 / 8000) W
Voltage (OVP)	
Range	(Vx1.05/1600) ~ (Vx1.05) V
Resolution	(Vx1.05/16000) V
Accuracy	0.20% +/- (Vx1.05/800) V
Current (OCP)	
Range	(Ix1.05/1600) ~ (Ix1.05) A
Resolution	(Ix1.05/16000) A
Accuracy	0.20% +/- (Ix1.05/800) A
Under Voltage Lockout (UVL)	
Mode	Input On / Continuous
Range	((V/4000*3) ~ Vmax) V
Resolution	(V/4000) V
Accuracy	2.50% +/- (V/800) V
Anti-Oscillation	Default/ Osc1/ Osc2/ Osc3/ Disable
Protection	
Over Power (OP)	(Px1.05) +/- (Px0.02) W
Over Voltage (OV)	(Vx1.05) +/- (Vx0.02) V
Over Current (OC)	(Ix1.1) +/- (Ix1.1x0.01/1.05) A
Over Temp (OTP)	90.00 +/- 5.000 °C
Reverse Max Current (RCP)	(Ix1.1) A
Short Max Current	(Ix1.02) A
Remote Inhibit (RI)	Short
Fault Indicator	SPDT Relay (30Vdc/0.5A or 125Vac/0.25A)
General	
AC Input	95~240 Vac 48~62 Hz
Derating for higher temperatures	(-)1.67% Rated Power / °C
Operating Temperature	5 °C ~ 40 °C
Transient Mode	
Frequency Range	0.100 - 10,000 Hz
Duty Range	1.000 - 100.0%
Transient Time Accuracy	10.0% +/- 50% of Min Time
Dielectric Strength	
Primary Circuit To Chassis	1500 Vac for 1 min
Primary Circuit To Load Terminal	1500 Vac for 1 min
Load Terminal To Chassis	1500 Vdc for 1 min

PLA Series : Operational Curves

800 W–7.5 kW



