February 2009

Power Supplies

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Power Supplies Family

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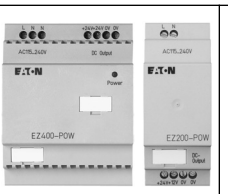
Table 1. Power Supply Selection Guide

Power Supply Series					
	PSG	**PSS**	**ELC**	**EZ Power Series**	**Sensor Power Supplies**
Features	■ General purpose 24V DC control ■ Rugged metal housing ■ DIN rail mount ■ 150% current boost for 1 sec (outrush) ■ Single-phase (85 – 264V AC/120 – 375V DC) or 3-phase (320 – 575V AC/ 450 – 800V DC) inputs ■ Class 1, Division 2 qualified (February 2009) ■ Conformal coated electronics	■ 24V DC control for high start-up loads ■ Peak current surge (boost/outrush) up to 6 times nominal current ■ Semi 47 approved ■ Long ride-through capability ■ Pluggable terminal connections ■ Single-phase and 3-phase inputs up to 600V AC	■ Compact, low cost 24V DC control for loads up to 2A ■ Plastic enclosure can be DIN rail or panel mounted ■ Class 1, Division 2 qualified ■ Single-phase (85 – 264V AC) input	■ Shallow-depth power supplies for 12V DC or 24V DC applications ■ Low-power output — up to 1.25A ■ EZ Relay styling provides optimal panel aesthetics ■ Plastic enclosure can be DIN rail or panel mounted (with optional kit) ■ Class 1, Division 2 qualified ■ Single-phase (85 – 264V AC) input	■ 27V DC supplies for tough sensor applications ■ Rugged housings with integrated junction box for mounting outside of electrical enclosures ■ Advanced diagnostic features

PSG Series

Product Description

Eaton's PSG Series of power supplies is designed to be a high-performance, high-quality line of products covering a majority of 24V DC control applications. With global certifications, compact size, and an impressive operating temperature range, the PSG series fits a wide variety of applications at a competitive price.

Eight models are offered, from 2.5A up to 20A with both single and 3-phase input voltage models available.

Application Description

The PSG series is a line of general-purpose power supplies for use in a wide variety of industrial control applications. Applications include communication networks, sensors, PLCs, and many other electrical systems.

Each model is equipped with a rugged metal housing, heavy-duty screw terminals, and a variety of protection features, making the PSG one of the most versatile industrial power supply lines on the market.

Features, Benefits and Functions

- Universal input voltages: 85 – 264V AC for single-phase units, 320 – 575V AC for 3-phase units.
- Rugged aluminum housing stands up to harsh environments.
- Current surge (power boost) of 1.5 times nominal current for 1 sec. allows branch protection and powering of high pick-up loads.
- Wide operating temperature range: -20°C to +75°C (derating above 50°C).
- Adjustable DC voltage output.
- LED indicating light for DC OK simplifies troubleshooting.
- Compact size, with common depth and height across all models allows for common panel depths and family consistency.
- MTBF up to 800,000 hours ensures uptime and reliability.
- Heavy duty screw terminals with finger-safe protective cover allow use of ring-lug terminals.
- All-metal DIN rail mounting hardware.
- Class 1, Division 2 hazardous location rated (February 2009).

Standards and Certifications

- UL/cUL Listed – UL 508.
- CSA Certified (contact Eaton for certification dates and status).
- CE Marked.
- RoHS Compliant.

Product Selection

Table 2. Product Selection

Description	Catalog Number	Price
Power Supply – Single-phase 85 – 264V AC input, 24V DC / 2.5A output	**PSG60E**	
Power Supply – 3-phase 320 – 575V AC input, 24V DC / 2.5A output	**PSG60F**	
Power Supply – Single-phase 85 – 264V AC input, 24V DC / 5A output	**PSG120E**	
Power Supply – 3-phase 320 – 575V AC input, 24V DC / 5A output	**PSG120F**	
Power Supply – Single-phase 85 – 264V AC input, 24V DC / 10A output	**PSG240E**	
Power Supply – 3-phase 320 – 575V AC input, 24V DC / 10A output	**PSG240F**	
Power Supply – Single-phase 85 – 264V AC input, 24V DC / 20A output	**PSG480E**	
Power Supply – 3-phase 320 – 575V AC input, 24V DC / 20A output	**PSG480F**	

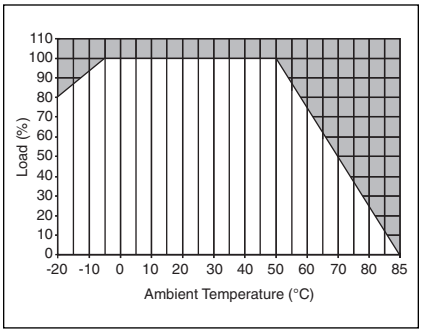


Figure 1. Power Derating Curve Vertical Mounting Position PSG60E

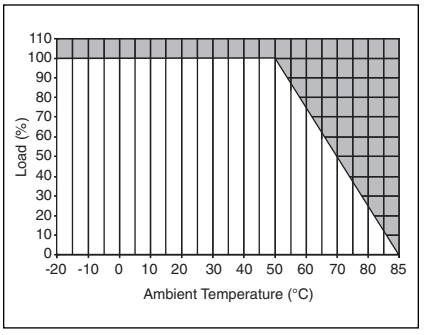


Figure 2. Power Derating Curve Vertical Mounting Position PSG60F, PSG120E, PSG120F, PSG480E, PSG480F

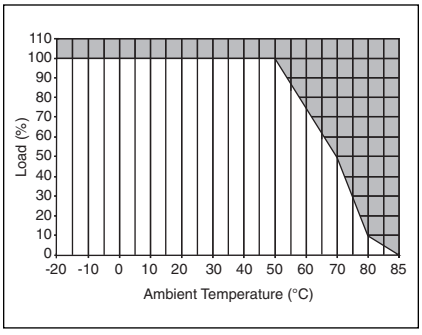


Figure 3. Power Derating Curve Vertical Mounting Position PSG240E, PSG240F

Discount Symbol. **MC7**

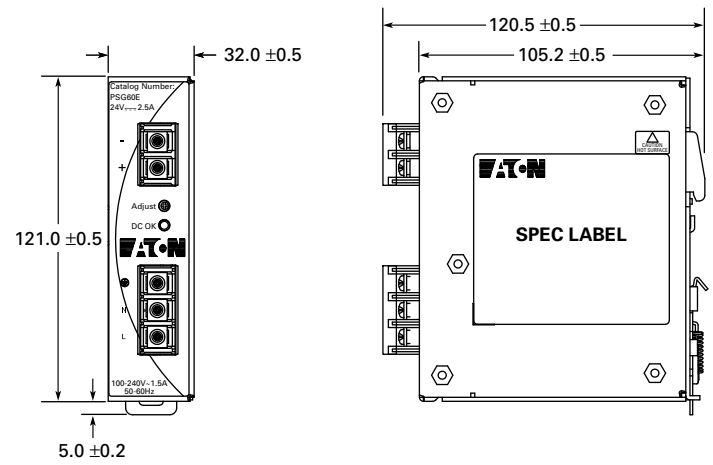
Technical Data and Specifications

Table 3. PSG Technical Specifications

Capacity	PSG60E	PSG120E	PSG240E	PSG480E	PSG60F	PSG120F	PSG240F	PSG480F
	60W	120W	240W	480W	60W	120W	240W	480W
Input								
Nominal Voltage	100 – 240V AC				3 x 400 – 500V AC			
Voltage Range	85 – 264V AC (DC input range 120 – 375V DC)				320 – 575V AC (DC input range 450 – 800V DC)			
Frequency	47-63 Hz (0 Hz at DC input)							
Nominal Current ①	1.1A	1.4A	2.9A	5.7A	0.3A	0.5A	0.8A	1.6A
Inrush Current Limitation①	30A	<80A	N/A	N/A	<30A	<30A	<40A	<50A
Mains Buffering @ Nominal Load (Typ.) ①	>20 ms	>35 ms	>20 ms	>20 ms	>30 ms	>35 ms	>35 ms	>20 ms
Turn-on Time	<2.5 sec	<1 sec	<1 sec	<1 sec	<2 sec	<1 sec	<1 sec	<1 sec
Internal Fuse	T3.15 AH/250V		T6.3AH/250V	F10H/250V	3.15AH/500V			
External Fusing	6A, 10A, or 16A		10A or 16A		3 x circuit breakers 6A, 10A or 16A			
Leakage Current	<1 mA	<1 mA	<3.5 mA	<1 mA	<3.5 mA			
Output								
Nominal Output Voltage	24V DC +/- 2%							
Adjustment Range	22 – 28V DC							
Nominal Current	2.5A	5A	10A	20A	2.5A	5A	10A	20A
Startup With Capacitive Loads	Max. 8,000 µF	Max. 10,000 µF						
Max. Power Dissipation Idling/ Nominal Load Approx.	10 W	22.5 W	42.5 W	72 W	9 W	18 W	36 W	72 W
Efficiency (@ 400V AC and Nominal Values)	>85% typ	>84% typ	>84% typ	>86% typ	>86% @ 2 x 400V AC >85% @ 3 x 500V AC		>87% @ 2 x 400V AC >86% @ 3 x 500V AC	
Current Surge (@ 24V DC)	3.75A	7.5A	15A	30A	3.75A	7.5A	15A	30A
Current Surge Time/Cycle	1 second (at 10-second intervals)							
Residual Ripple/Peak Switching (20 Mhz)	<50 mV/<240mVpp							
Parallel Operation	With Oring Diode							
Galvanic Isolation								
Input/Output	4 kVAC (type test)/3 kVAC (routine test)							
Input/Ground	1.5 kVAC (type test)/1.5 kVAC (routine test)							
Output/Ground	1.5 kVAC (type test)/500V AC (routine test)							
General/Physical Data								
Housing Material	Aluminum (Al5052)							
Signals	Green LED for DC OK							
MTBF	>800,000 hrs		>300,000 hrs		>500,000 hrs		>300,000 hrs	
Dimensions (L)	121 mm							
Dimensions (W)	32 mm	50 mm	85 mm	160 mm	70 mm	70 mm	85 mm	160 mm
Dimensions (H)	120 mm	115 mm	118.5 mm	115 mm	118.5 mm	118.5 mm	120.5 mm	115 mm
Weight (kg)	0.37	0.54	1.04	1.8	0.56	0.72	0.77	1.71
Operating Temperature	-20°C to +75°C (>50°C derating)							
Storage Temperature	-25°C to +85°C							
Operating Humidity	<95% RH, non-condensing							
Vibration (Operating)	10 to 150 Hz, 0.35 mm acc. 50 m/s/s, single amplitude (5 G max) for 90 min. in each X, Y, Z direction, in acc. with IEC 68-2-6							
Pollution Degree	2							
Climatic Class	3K3 according to EN 60721							
Approvals/Certifications								
	UL/cUL Listed-UL508 (Industrial Control Equipment), cURus-UL60950-1, CSA, CE, IEC, EN, German Safety, RoHS							
Safety & Protection								
Transient Surge Voltage	Varistor							
Surge Voltage Protection Against Interal Surge	Yes							
Safety Class	Class I with ground connection							
Shock	30 G (300 m/s/s) in all directions according to IEC 68-2-27							

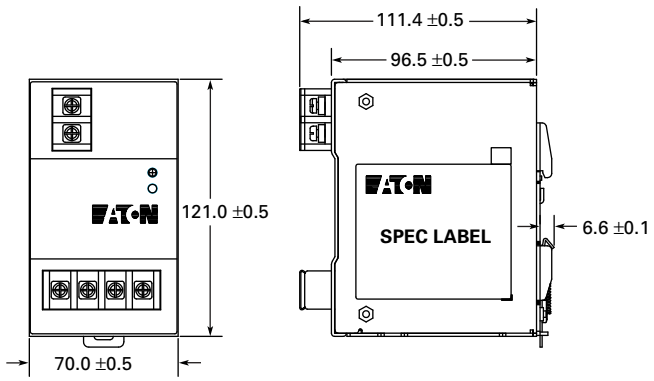
① Ratings for single-phase models are at 115V AC; 3-phase models are at 400V AC.

Dimensions



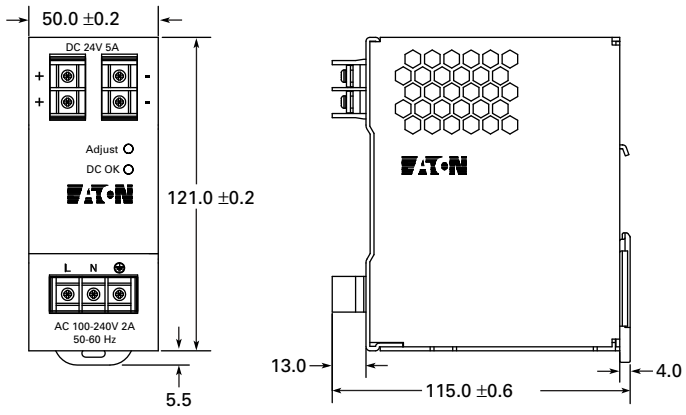
Note: Dimensions are for reference only.

Figure 4. PSG60E — Approximate Dimensions in mm



Note: Dimensions are for reference only.

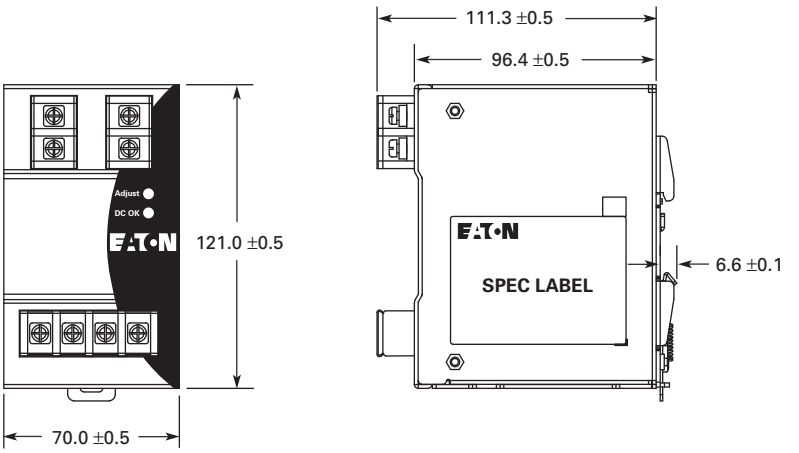
Figure 5. PSG60F — Approximate Dimensions in mm



Note: Dimensions are for reference only.

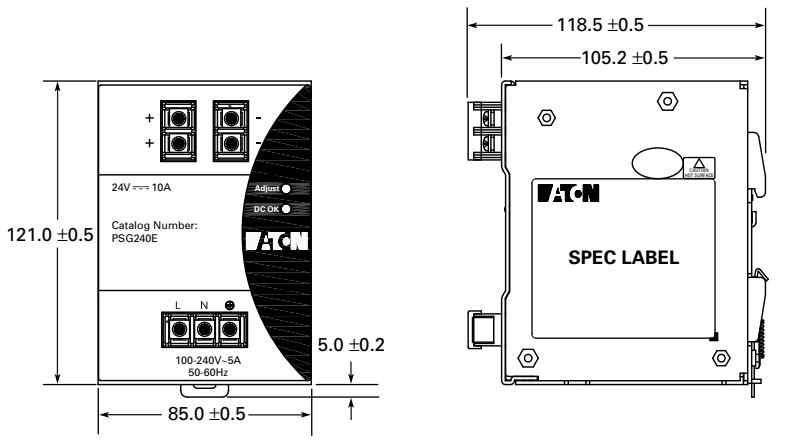
Figure 6. PSG120E — Approximate Dimensions in mm

Dimensions



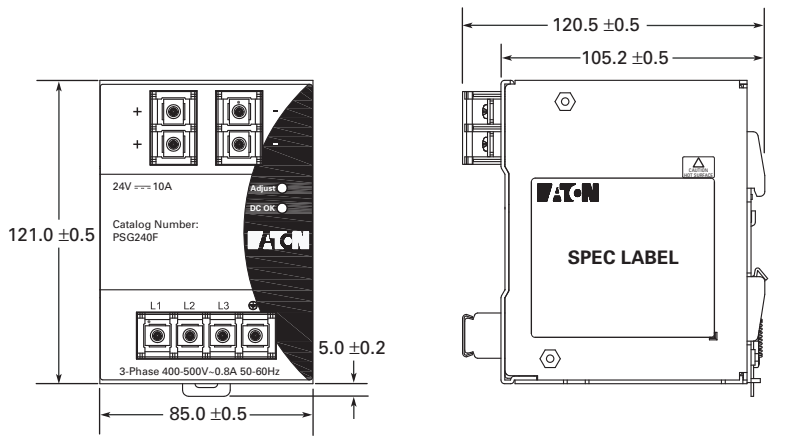
Note: Dimensions are for reference only.

Figure 7. PSG120F — Approximate Dimensions in mm



Note: Dimensions are for reference only.

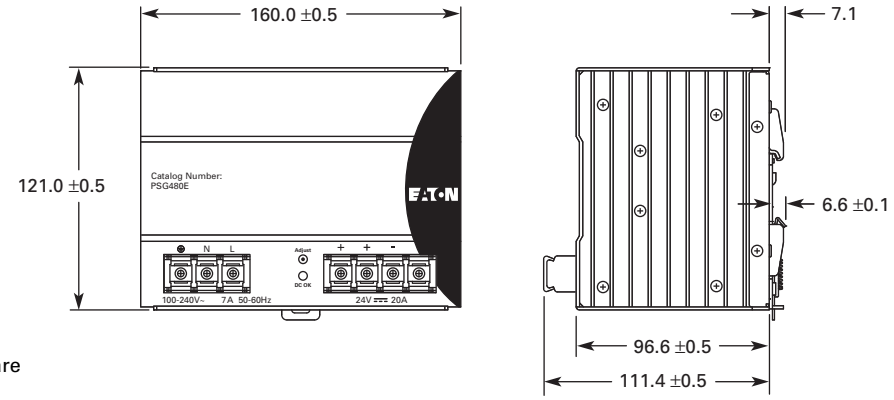
Figure 8. PSG240E — Approximate Dimensions in mm



Note: Dimensions are for reference only.

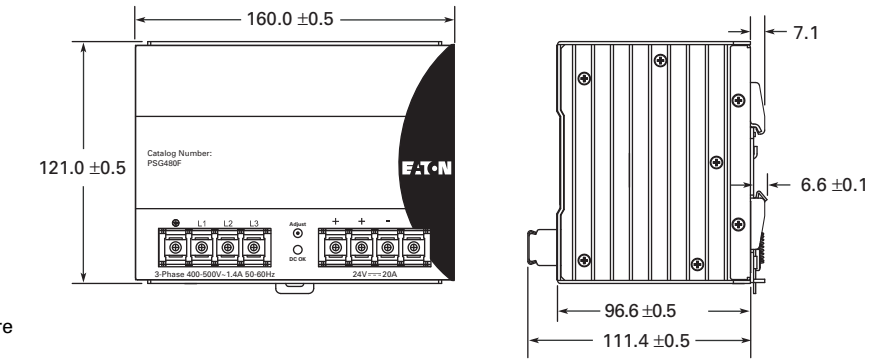
Figure 9. PSG240F — Approximate Dimensions in mm

Dimensions



Note: Dimensions are for reference only.

Figure 10. PSG480E — Approximate Dimensions in mm



Note: Dimensions are for reference only.

Figure 11. PSG480F — Approximate Dimensions in mm

PSS Series

PSS Supplies

Product Description

Eaton's PSS Series of power supplies is designed to work in a variety of applications, including the power supply to the ***IT.*** line of power control products. They also work in most control applications that require 24V DC. All of the PSS power supplies are designed to provide the highest "outrush" current in the industry for units of their size. It is also the only line to provide 110 – 480V AC input voltage down to the smallest current units.

Application Description

The PSS line of power supplies is specifically designed to work with the S801, S811, MV811 and ***IT.*** electromechanical devices.They can also serve in a variety of other applications, including support of sensors, operator interfaces, PLCs, communication networks, heaters and lights and in many other industrial applications where 24V DC power supplies are required. With the widest operating temperature range in the industry, rugged design and a long list of advanced features, they can be applied in a very wide range of applications.

The higher input voltage ranges are designed to allow users to eliminate the need for a control power transformer in the enclosure or cabinet, thus saving space, wiring and money.

Features

- Wide range voltage input (110 – 480V AC operating).
- High current outrush capability in all units.
- Semiconductor F47 approved.
- Long ride-through capability designed in.
- Wide operating temperature range.
- Power supplies can be used in parallel (6.5A and greater).
- Multiple 24V DC terminals for easy wiring.
- DIN rail and panel mount available in most units.
- Removable terminal connections.
- IP20 fingerproof design.
- Larger units have —
  - Active power factor correction
  - Adjustable output voltages
  - Fault contacts
  - Analog outputs

Benefits

- 24V DC control enhances personnel and equipment safety.
- IP20 design improves personnel safety.
- Removable terminal connectors make installation and repair quick and easy.
- Wide operating temperature range allows for installation in most areas where standard control products can be installed today.
- High current outrush capability allows use of smaller power supplies in many applications and ensures stable output during high power demand cycles.
- Due to long ride-through time, the Power Supply can maintain the control power system during brown out and black out conditions.

Standards and Certifications

- UL Listed 508.
- CSA Certified.
- CE Marked.
- F47 Certified.

Catalog Number Selection

Table 4. PSS Catalog Numbering System

P S S 5 5 A

Model
PSS = Power Supply Switcher

Nominal Input Voltage Rating	
A = 115V AC	**D** = 480 – 600V AC (3-phase)
B = 230V AC	E = 110 – 240V AC
C = 360 – 480V AC (3-phase)	**F** = 380 – 480V AC

Wattage Rating	
10 = 10 Watts	**160** = 160 Watts
25 = 25 Watts	**300** = 300 Watts
55 = 55 Watts	**600** = 600 Watts
	1000 = 1000 Watts

Product Selection

Table 5. Power Supply Product Selection

Steady State Current (Amps)	Steady State Wattage	Input Voltage	Catalog Number	Price
.4	10W	110 – 240 380 – 480	**PSS10E** **PSS10F**	
1.0	25W	110 – 240 380 – 480	**PSS25E** **PSS25F**	
2.3	55W	110 – 240 190 – 264 360 – 480 480 – 600	**PSS55A** **PSS55B** **PSS55C** **PSS55D**	
6.5	160W	110 – 240 380 – 480 480 – 600	**PSS160E** **PSS160C** **PSS160D**	
12.5	300W	90 – 264 380 – 480	**PSS300E** **PSS300C**	
25.0	600W	380 – 480	**PSS600C**	
40.0	1000W	380 – 480	**PSS1000C**	

Table 6. PSS Sizing Chart

Frame Size	IEC Size	NEMA Size	Steady State Current	Inrush	
				Amps	Duration
27 mm	A	N/A	.83A	.83A	30 mS
45 mm	B	00, 0	.13A	3.30A	50 mS
54 mm	C	1	.15A	3.80A	50 mS
76 mm	D	2	.21A	5.40A	65 mS
105 mm	E	3, 4	.23A	5.80A	85 mS
140 mm	F	5	.54A	8.30A	250 mS

Accessories

DIN Rail Mounting Kit

Table 7. Kits

Description	Catalog Number	Price
DIN Rail Mounting Kit	**PSSDIN**	

Discount Symbol. **MC-7**

Technical Data and Specifications

Table 8. Power Supply Specifications

	PSS10E	PSS10F	PSS25E	PSS25F	PSS55A	PSS55B	PSS55C	PSS55D
Capacity	**10W**	**10W**	**25W**	**25W**	**55W**	**55W**	**55W**	**55W**
Input								
Voltage	110 to 240V AC	380 to 480V AC	110 to 240V AC	380 to 480V AC	115V AC	230V AC	380 to 480V AC 3-Phase	480 to 600V AC 3-Phase
Input Current (RMS)	.19A	.1A	.45A	.17A	.9A	.54A	.20A/Phase	.07A/Phase
Frequency	47 – 63 Hz	47 – 63 Hz	47 – 63 Hz	47 – 63 Hz	47 – 63 Hz	47 – 63 Hz	47 – 63 Hz	47 – 63 Hz
Voltage Range	± 10%	± 10%	± 10%	± 10%	± 15%	± 15%	± 10%	± 15%
Inrush Current	25A	25A	35A	35A	16A	32A	15A	15A
Overvoltage	330V AC	550V AC	330V AC	550V AC	Varistor	Varistor	Varistor	Varistor
Internal Input Fuse	T2A @ 250V	T2A @ 250V	T4A @ 250V	T2A @ 250V	T2A @ 250V	T2A @ 250V	3 xT2A @ 250V	3 x KTK-R-3/4 @ 600V
External Fusing	Not Required							
Output								
Voltage Nominal	24V DC	24V DC	24V DC	24V DC	24V DC	24V DC	24V DC	24V DC
Voltage Regulation	±10%	±10%	±10%	±10%	±3.5%	±3.5%	±3.5%	±3.5%
Current Nominal	.4A	.4A	1.0A	1.0A	2.3A	2.3A	2.3A	2.3A
Voltage Adj. Range	None	None	None	None	None	None	None	None
Current Surge	1A	1A	6.8A	6.8A	10A	10A	10A	10A
Current Surge Time	40 mS	40 mS	85 mS	85 mS	180 mS	180 mS	180 mS	180 mS
Surge CycleTime					10 sec	10 sec	10 sec	10 sec
Hold UpTime	100 mS	100 mS	100 mS	100 mS	70 mS	70 mS	24 mS	30 mS
Max. Load Capacitance	10,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF
Switching Frequency	60k Hz	60k Hz	100k Hz	100k Hz	100k Hz	100k Hz	100k Hz	61k Hz
Efficiency @ Max. Load	80%	75%	80%	80%	80%	80%	80%	85%
Output Ripple	±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%

Table 8. Power Supply Specifications (Continued)

Capacity	PSS10E	PSS10F	PSS25E	PSS25F	PSS55A	PSS55B	PSS55C	PSS55D
	10W	10W	25W	25W	55W	55W	55W	55W
Protection								
Short Circuit	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart
Over Voltage	No	No	No	No	No	No	No	No
Under Voltage	No	No	No	No	No	No	No	No
Over Temperature	None. Software in Micro Controller							
Over Current	0.8A typical @ 24V for >100 mS	0.8A typical @ 24V for >160 mS	6.8 A typical @ 24V for >160 mS	6.8A typical @ 24V for >160 mS	10A typical @ 24V for >300 mS	10A typical @ 24V for >300 mS	10A typical @ 24V for >300 mS	10A typical 24V for >300 mS
Galvanic Isolation								
Input to Output	1.5 kV	2 kV	1.5 kV	2 kV	3 kV	3 kV	3 kV	4 kV
Input/Output to Rail	1.5 kV	2 kV	1.5 kV	2 kV	3 kV	3 kV	3 kV	4 kV
Input to Ground	1.5 kV	2 kV	1.5 kV	2 kV	1.5 kV	1.5 kV	1.5 kV	2.0 kV
Output to Ground	200V	200V	200V	200V	200V	200V	200V	250V
Special Features								
Cooling	Convection	Convection	Convection	Convection	Convection	Convection	Convection	Convection
Load Sharing	None	None	None	None	None	None	None	None
Redundancy	None	None	None	None	None	None	None	None
Analog Outputs	None	None	None	None	None	None	None	None
Fault Relay	None	None	None	None	None	None	None	None
Wire Size								
Input	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG
Output	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG	20 – 14 AWG
I/O	None	None	None	None	None	None	None	None
Indications								
Indicators	Green LED (DC on)							
Physical Data								
Dimensions Length x Width x Depth in inches (mm)	4.49 x 1.97 x 4.49 (114 x 50 x 114)	4.49 x 1.97 x 4.49 (114 x 50 x 114)	4.49 x 1.97 x 4.49 (114 x 50 x 114)	4.49 x 1.97 x 4.49 (114 x 50 x 114)	2.09 x 3.86 x 5.59 (53 x 98 x 142)	2.09 x 3.86 x 5.59 (53 x 98 x 142)	2.32 x 4.21 x 6.73 (59 x 107 x 171)	2.32 x 6.19 x 6 (59 x 157 x 154)
Weight (kg)	.57 (.26)	.64 (.29)	.73 (.33)	.81 (.37)	1.06 (.48)	1.06 (.48)	1.17 (.53)	2.45 (1.1)
Mounting and Recommended Clearance	TS35 rail or chassis; leave 4 in. (10 cm) free space on venting sides.				TS35 Rail (with optional PSSDIN Kit) or Chassis; Leave 4 in. (10 cm) free space on venting sides.			—
Environmental Performance								
Storage Temperature	-25 to 80°C	-25 to 80°C	-25 to 80C	-25 to 80C	-40 to 85°C	-40 to 85°C	-40 to 85°C	-40 to 85°C
Operating Temperature	-5 to 50°C	-5 to 50°C	-5 to 50°C	-5 to 50°C	-25 to 50°C	-25 to 50°C	-25 to 50°C	-25 to 50°C
Storage Humidity	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%
Operating Humidity	<95% RH non-condensing	<95% RH non-condensing	<95% RH non-condensing	<95% RH non-condensing	20 to 85% non-condensing	20 to 85% non-condensing	20 to 85% non-condensing	20 to 85% non-condensing
Approvals/Certifications								
	UL, IEC, CSA	UL, IEC, CSA	UL, IEC, CSA	UL, IEC, CSA	cULus 1950 Recognized, cULus 508 Listed, CE			cCSAus

PSS160E

PSS300E

Table 8. Power Supply Specifications (Continued)

	PSS160E	PSS160C	PSS160D	PSS300E	PSS300C	PSS600C	PSS1000C
Capacity	**160W**	**160W**	**160W**	**300W**	**300W**	**600W**	**1000W**
Input							
Voltage	115 to 230V AC	380 to 480V AC 3-Phase	480-600Vac 3Ph	115 to 230V AC	380 to 480V AC 3-Phase	380 to 480V AC 3-Phase	380 to 480V AC 3-Phase
Input Current (RMS)	2.3A/1.4A	0.43A/Phase	0.66/Phase	3.3A/1.65A	.75A/Phase	1.4A/Phase	1.9A/Phase
Frequency	47 – 63 Hz	47 – 63 Hz	47 - 63 Hz	47 – 63 Hz	47 – 63 Hz	47 – 63 Hz	47 – 63 Hz
Voltage Range	± 10%	± 10%	± 10%	± 10%	± 10%	± 10%	± 10%
Inrush Current	16/32A	5.7A	5.9A	30A	40A	40A	40A
Overvoltage	Varistor	Varistor	Varistor	Varistor	Varistor	Varistor	Varistor
Internal Input Fuse	T6.3A @ 250V	3 xT2A @ 500V	(3)KTK-R-3/4, 600V	T5A @ 250V	No	No	No
External Fusing	Not Required	Not Required	Not Required	Not Required	3 xT2A @ 480V AC Slow Blow	Required 3 x 6A @ 480V AC Slow Blow	
Output							
Voltage Nominal	24V DC	24V DC	24V DC	24V DC	24V DC	24V DC	24V DC
Voltage Regulation	±3.5%	±3.5%	±0.5 V	±6%	±5%	±6%	±6%
Current Nominal	6.5A	6.5A	6.7A	12.5A	12.5A	25A	40A
Voltage Adj. Range	22.5 to 28.5V DC	22.5 to 28.5V DC	–	23 to 28V DC	23 to 28V DC	23 to 28V DC	23 to 28V DC
Current Surge	13A	20A	20A	18A	25A	50A	80A
Current SurgeTime	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec
Surge CycleTime	10 sec	10 sec	10 sec	10 sec	60 sec	60 sec	60 sec
Hold UpTime	50 mS	15 mS	30 mS	30 mS	25 mS @ 480V AC	12 mS	>14 mS
Max. Load Capacitance	10,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF	10,000 µF
Switching Frequency	65k Hz	100k Hz	61k Hz	100k Hz	100k Hz	65k Hz	65k Hz
Efficiency @ Max. Load	85%	83%	88%	80%	83%	87%	90%
Output Ripple	±1%	±1%	±1%	±.1%	±.1%	±.1%	±.1%

Table 8. Power Supply Specifications (Continued)

	PSS160E	PSS160C	PSS160D	PSS300E	PSS300C	PSS600C	PSS1000C
Capacity	**160W**	**160W**	**160W**	**300W**	**300W**	**600W**	**1000W**
Protection							
Short Circuit	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart
Over Voltage	No	Yes	Yes	Yes	Yes	V_{out} > 30V DC	V_{out} > 30.5V DC
Under Voltage	No	Yes	Yes	Yes	Yes	V_{out} < 20V DC	V_{out} < 20V DC
Over Temperature	None. Software in Micro Controller			V_{out} heatsink temp. is greater than 100°C			
Over Current	13A typical @ 24V for >1 sec	13A typical @ 24V for >1 sec	13A typical @ 24V for >1 sec	20A typical @ 24V for >1 sec	20A typical @ 24V for >1 sec	26.5A typical @ 24V for >1 sec	43A typical @ 24V for >1 sec
Galvanic Isolation							
Input to Output	3 kV	3 kV	4 kV	3 kV	3 kV	3 kV AC	3 kV AC
Input/Output to Rail	3 kV	3 kV	4 kV	3 kV	3 kV	1.5 kV AC	1.5 kV AC
Input to Ground	1.5 kV	1.5 kV	2 KV	1.5 kV	1.5 kV	1.5 kV AC	1.5 kV AC
Output to Ground	500V	500V	500V	500V	500V	500V AC	500V AC
Special Features							
Cooling	Convection	Convection	Convection	Fan cooled	Convection	Fan cooled	Fan cooled
Load Sharing	Maximum 2 units	Maximum 2 units	Maximum 5 units	Maximum 3 units	Maximum 2 units	Maximum 2 units	Maximum 2 units
Redundancy	Maximum 2 units	Maximum 2 units	Maximum 2 units	Maximum 2 units	Maximum 2 units	Maximum 2 units	Maximum 2 units
Analogue Outputs	None	None	None	VDC Out = 3 x V analogue, T = 10 x V analogue, IOUT = 10 x V analogue	None	VDC OUT = 3 x V analogue, T = 10 x V analogue, IOUT = 10 x V analogue	
Fault Relay	Form C, 125V AC and 30V DC @ 1A rating	Form C, 125V AC and 30V DC @ 1A rating	Form C, 12A @ 125Vac/ 24Vdc	Form C contacts (1A @ 30V DC or 30V AC)	Form C contacts (1A @ 30V DC or 30V AC)	Form C contacts (1A @ 30V DC or 30V AC)	Form C contacts (1A @ 30V DC or 30V AC)
Wire Size							
Input	26 – 12 AWG	26 – 12 AWG	26 – 12 AWG	22 – 12 AWG	22 – 12 AWG	22 – 12 AWG	22 – 12 AWG
Output	26 – 12 AWG	26 – 12 AWG	26 – 12 AWG	22 – 6 AWG	22 – 6 AWG	22 – 6 AWG	22 – 6 AWG
I/O	26 – 12 AWG	26 – 12 AWG	26 – 12 AWG	22 – 12 AWG (.08 – 2.5 mm^2)	22 – 12 AWG (.08 – 2.5 mm^2)	22 – 12 AWG (.08 – 2.5 mm^2)	22 – 12 AWG (.08 – 2.5 mm^2)
Indications							
Indicators	Green LED (DC on)						
Physical Data							
Dimensions Length x Width x Depth in Inches (mm)	5.0 x 2.2 x 6.8 (127 x 57 x 175)	5.44 x 2.3 x 7 (138.2 x 58.4 x 177.8)	5.44 x 2.5 x 6.68 (138.x 63 x 170)	4.1 x 9.53 x 6.1 (104 x 242 x 155)	6.25 x 3.16 x 6.35 (159 x 80 x 161)	6.8 x 9.4 x 5.3 (173 x 238 x 135)	7.2 x 10.6 x 5.3 (182 x 268 x 133)
Weight Lbs. (kg)	1.94 (.88)	2.2 (.99)	2.6 (1.18)	2.6 (1.18)	3.0 (1.4)	6.6 (3)	8.35 (3.8)
Mounting and Recommended Clearance	TS35 Rail with optional PSSDIN Kit or Chassis (hardware included); leave 4 in. (10 cm) free space on venting sides.		–	TS35 Rail with optional PSSDIN Kit or Chassis (hardware included); leave 4 in. (10 cm) free space on venting sides.			
Environmental Performance							
Storage Temperature	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +85°C
Operating Temperature	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-10 to +50°C (Full Power)	-10 to +50°C (Full Power)
Storage Humidity	5 to 95%	5 to 95%	5 to 95%	4 to 95%	4 to 95%	5 to 95%	5 to 95%
Operating Humidity	20 to 85% non-condensing	20 to 85% non-condensing	20 to 85% non-condensing	19 to 85% non-condensing	19 to 85% non-condensing	20 to 85% non-condensing	20 to 85% non-condensing
Approvals/Certifications							
	CE, cULus 508 Listed	CE, cULus 508 Listed	cCSAus	CE, cULus 508 Listed	CE, cULus 508 Listed	CE, cULus 508 Listed	CSA 22.2 #950-95, cULus 508 Listed, CE

ELC Power Supply

ELC Power Supply

Product Description

Eaton's ELC power supplies are the perfect products for those applications requiring a very compact and low-cost source for 24V DC power. While these products were developed to be a perfect match for our Eaton Logic Controllers, they can be used in a variety of applications.

The lightweight, DIN rail mounted enclosures, wide input voltage range, and robust screw terminals make these power supplies easy to install and use. They are available in 1A and 2A models.

Features, Benefits and Functions

- Universal input voltage: 85-264V AC.
- Compact size, with common depth and height across models allows for common panel depths and family consistency.
- ELC styling provides maximum aesthetic appeal when used with the Eaton Logic Controllers.
- Front-mounted pressure plate screw terminals for a robust connection.
- Removable finger-safe protective cover for terminals.
- Power On indication LED.
- Integrated mounting hardware for panel mounting or DIN rail mounting.

Standards and Certifications

- UL / cUL Listed – UL 508.
- CE Marked.
- RoHS Compliant.
- Class I, Division II for groups A, B, C, D.

Product Selection

Table 9. ELC Product Selection

Description	Catalog Number	Price
24 Watt, 1 Amp Power Supply	**ELC-PS01**	
48 Watt, 2 Amp Power Supply	**ELC-PS02**	

Technical Data and Specifications

Table 10. Technical Specifications

Capacity	**ELC-PS01**	**ELC-PS02**
	24W	**48W**
Input		
Nominal Voltage	100 – 240V AC	
Voltage Range	85 – 264V AC	
Frequency	47 – 63 Hz	
Output		
Nominal Output Voltage	24V DC +/- 3%	
Nominal Current	1 A	2 A
Efficiency	78% to 87% typical at full load	
Residual Ripple/Peak Switching (20 MHz)	< 100 mV typical @ full load	< 240 mV typical @ full load
General/Physical Data		
Housing Material	Plastic	
Dimensions (D)	60 mm	
Dimensions (W)	36.5 mm	55 mm
Dimensions (H)	90 mm	
Weight (g)	158	250
Operating Temperature	0°C to +55°C	
Storage Temperature	-25°C to +70°C	
Operating Humidity	50% to 95% RH, non-condensing	
Pollution Degree	2	
Approvals/Certifications		
	UL508, CE, RoHS, EMC directive 89/336/EEC, Low voltage directive 73/23/EEC	
Safety and Protection		
Overload/Short Circuit Protection	Auto recovery	

Discount Symbol. **MC26**

Dimensions

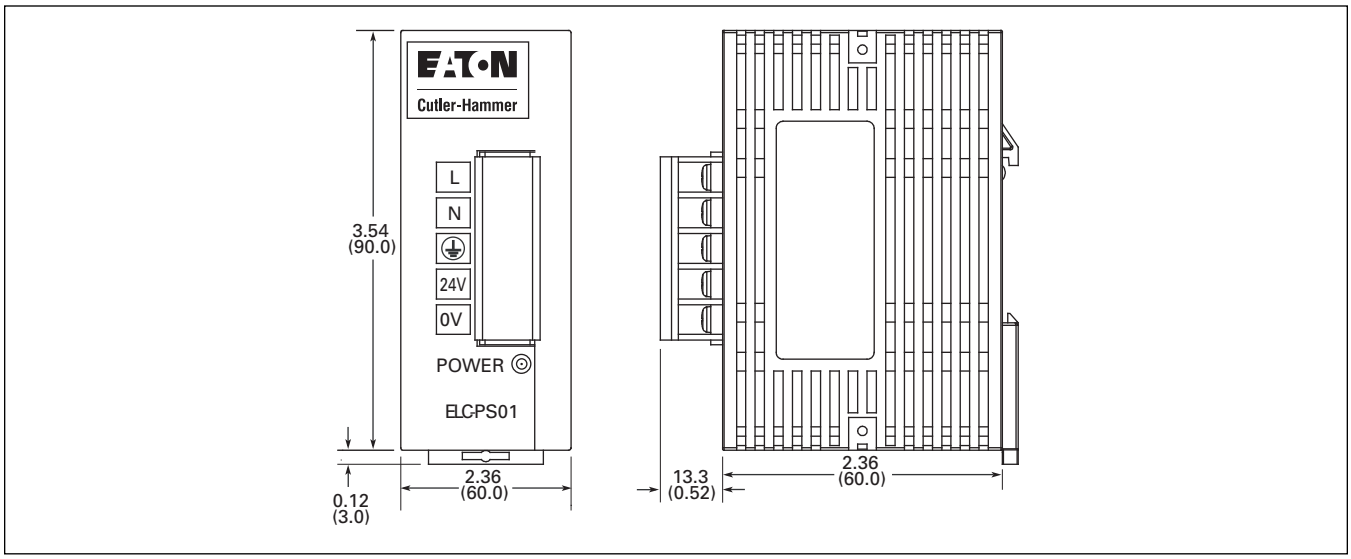


Figure 34. ELC-PS01 Power Supply — Approximate Dimensions in Inches (mm)

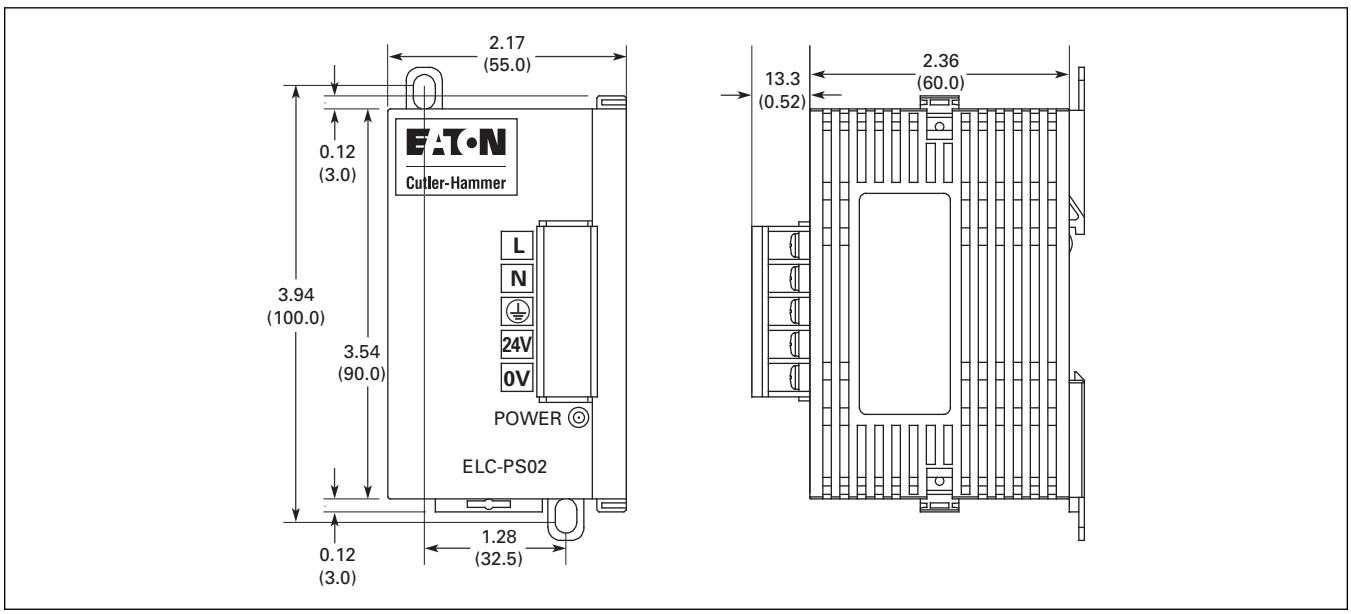
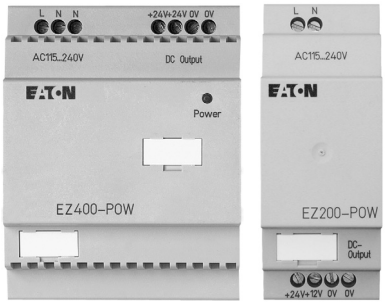


Figure 35. ELC-PS02 Power Supply — Approximate Dimensions in Inches (mm)

EZ Power Supply



Product Description

Eaton's EZ power supplies are the perfect products for those applications requiring a low-amperage 24V DC power source. While these products were developed to be a perfect match for our EZ Relay products, they can be used in a variety of applications.

Features, Benefits and Functions

- Universal input voltage: 85 – 264V AC.
- Compact size, with common depth and height across models allows for common panel depths and family consistency.
- EZ styling provides maximum aesthetic appeal when used with the Eaton EZ Relay products.
- Wide operating temperature range (-25°C to 55°C).
- Power On indication LED.
- Optional mounting hardware for panel mounting (EZB4-101-GF1) or standard DIN rail mounting.
- Finger-safe, side-entry screw clamp terminals for clean wiring.

Standards and Certifications

- UL Listed.
- CSA Certified.
- CE Marked.
- Class I, Division II rated for groups A, B, C, D.
- RoHS Compliant.

Product Selection

Figure 36. EZ/EZD-CPs Power Supplies

Description	Catalog Number	Price
100 – 240V AC Input to 12V DC at 20 mA/24V DC at 250 mA	**EZ200-POW**	
100 – 240V AC Input to 24V DC at 1.25A	**EZ400-POW**	

Technical Data and Specifications

Figure 37. Technical Specifications

Capacity	**EZ200-POW**	**EZ400-POW**
	6W	**30W**
Input		
Nominal Voltage	100 – 240V AC	
Voltage Range	85 – 264V AC	
Frequency	47 – 63 Hz	
Output		
Nominal Output Voltage	24V DC +/- 3%	
Nominal Current	.25 A	1.25 A
General/Physical Data		
Housing Material	Plastic	
Dimensions (D)	56.5 mm	
Dimensions (W)	35.5 mm	71.5 mm
Dimensions (H)	90 mm	
Operating Temperature	-25°C to +55°C	
Storage Temperature	-40°C to +70°C	
Pollution Degree	2	
Connection Cables	0.2-4.0 mm^2 (AWG 22-12), Solid	
	0.2-2.5 mm^2 (AWG 221-12), Flexible	
Approvals/Certifications		
	UL, CE, RoHS, CSA, EN 50178m IEC/EN 60947	
Safety and Protection		
Overload/Short Circuit Protection	Yes	
Over Current Limitation Form	0.3A	1.4A
Degree of Protection	IP20	
RFI Suppression	EN 55011, EN 55022 Class B, IEC 61000-6-1, 2, 3, 4	
Potential Isolation (prim./sec.)	Yes, SELV, (to EN 600950, VDE 805)	

Discount Symbol. **MC26**

Dimensions

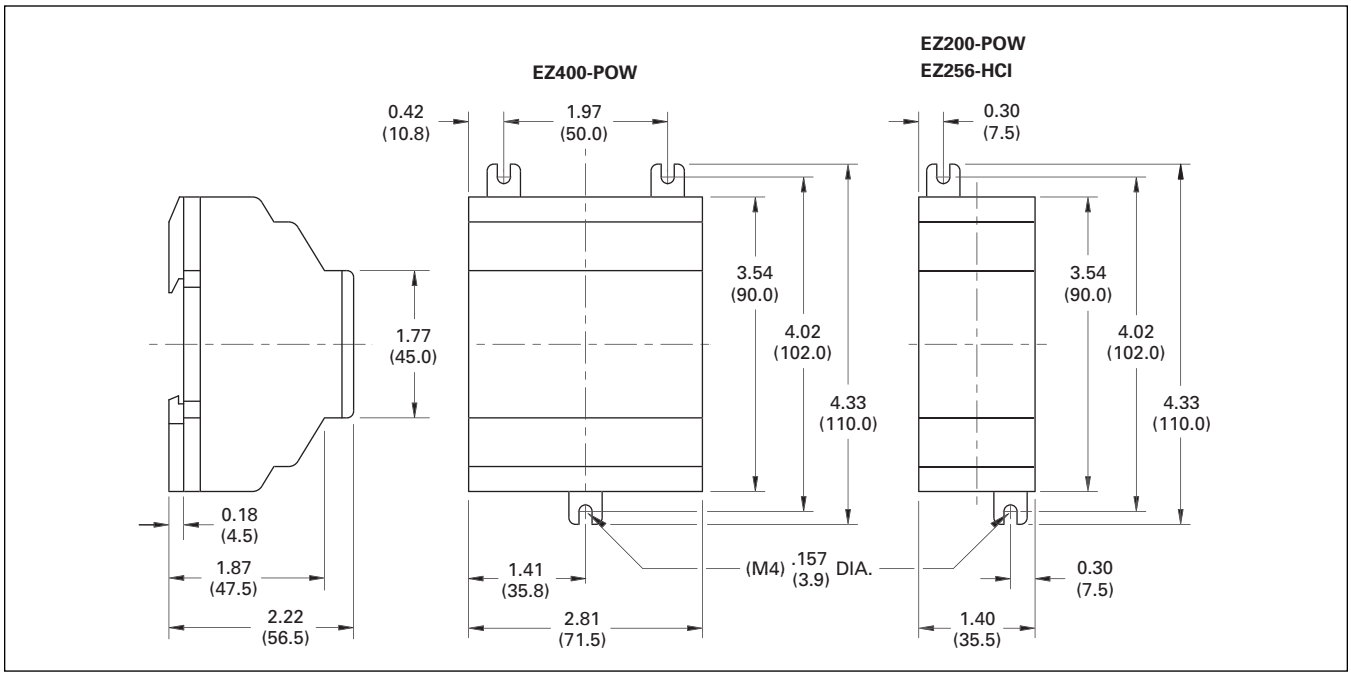


Figure 38. EZ200-POW/EZ256-HCI and EZ400-POW Series Dimensions in Inches (mm)

Sensor Power Supply

Product Description

The Cutler-Hammer® Sensor Power Supply by Eaton Corporation was specially designed to be used with the 200 Series and E68 Series Zero Pressure Accumulation Systems, but is also suitable for use in a wide variety of applications. The unit delivers 100W output at 27V DC and supports easy, Class II wiring. The power supply is a tamper-proof, rugged component easily mounted to a conveyor side-channel or support. Internal components are fully encapsulated in a strong die-cast housing to stand up to rugged handling, ensuring flawless performance in any material handling environment.

Features, Benefits and Functions

- Integrated AC junction box for one-step mounting and wiring without the need for additional accessories.
- Built-in DC power health contact allows easy monitoring of power supply status.
- Unitized design features a tamper-proof encapsulated construction to reduce the risk of damage associated with conventional open control-panel type construction.
- Built-in slug-release input converts an AC or DC input to the appropriate DC signal for integration with the 200 Series and E68 Series Zero Pressure Accumulation Systems.
- Dual output connection terminals to make it easy and convenient to locate the power supply at the center of the cable run.
- Power switch protected against accidental operation.
- Power in and out indicators show status at a glance.
- Conduit entry box for NEC compliance.
- Simple mounting with two 1/4-inch bolts.
- Rugged die-cast housing.
- Fully encapsulated electronics.

Standards and Certifications

- UL Listed.
- CSA Approved.

Product Selection

Table 11. Model Selection

Operating Voltage	Output	Slug Input	Type	Slug Output	Catalog Number	Price
105 – 132V AC	27V DC, 100W; short circuit, overload and overvoltage protection (cycle power to reset)	15 – 132V AC/DC 3 mA minimum	Standard For use with 200 series and E68 systems	Sinking or Sourcing, switch selectable; 80 mA maximum; short circuit protection for loads less than 32V AC or DC (auto reset)	**PS256A-01B1**	
			High Current Slug For use with solenoid valve systems requiring full current slug signals	Sinking only; 100W output; short circuit, overload and overvoltage protection (cycle power to reset) ①	**PS256A-04B1**	

① Total output power of supply is 100W. Total supply output power (100W) = main output power + slug output power.

Discount Symbol. **MC15**

Technical Data and Specifications

Table 12. Sensor Power Supply Specifications

Description	PS256A-01B1	PS256A-04B1
Input Power	144W, Maximum inrush 30A from cold start	
Input Voltage	105 – 132V AC	
Input Current (Full Load)	105V AC – 1.92A, 115V AC – 1.65A, 132V AC – 1.5A	
Output Power	100W	
Output Voltage	27V DC	
Output Protection	Short circuit, overload and overvoltage protection (cycle power to reset), diode protected	
Regulation	±3%	
Slug Input	15 – 132V AC/DC	
Slug Output	Sinking or Sourcing, switch selectable; 80 mA maximum; short circuit protection for loads less than 32V AC or DC (auto reset)	Sinking only; 100W output; short circuit, overload and overvoltage protection (cycle power to reset) ①
Indicators	Red LED: AC In; Green LED: DC Out	
DC Fail Indication Output	N.O. contact, solid-state relay, 80 mA maximum	
Temperature Range	-13° to 131°F (-25° to 55°C)	
Vibration	20g	
Enclosure Material	Die-cast aluminum	
Enclosure Rating	NEMA 1	
Connections	Main Output/Slug Output: Two three-position finger protected barrier strips; AC Line Input, DC Fail Indication and Slug Input: 8-position screw terminal strip inside conduit entry box	

① Total output power of supply is 100W. Total supply output power (100W) = main output power + slug output power.

Dimensions

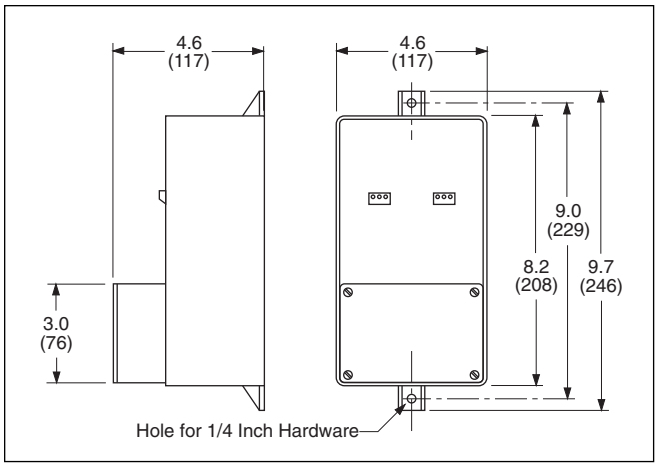


Figure 39. Dimensions in Inches (mm)

Wiring Diagram

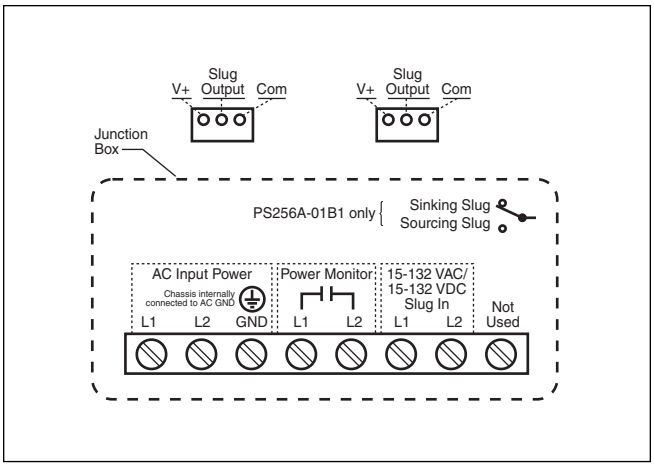


Figure 40. Wiring Diagram

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