

1-phase, 24 V DC

Overview

Thanks to its stepped profile design, the LOGO!Power product family is ideally suited for low installation depths, such as in miniature distribution boards. The stabilized power supplies with a wide range input of 100 ... 240 V AC (85 ... 264 V) and 110 ... 300 V DC are available with an output voltage of 24 V in four performance classes. The 24 V versions are ideal for supplying LOGO! controllers with the corresponding voltage input. The high level of efficiency across the entire load range as well as the low no-load losses result in lower overall energy consumption. Greater convenience when commissioning and servicing thanks to integrated current monitor (for devices at least 36 mm wide) The extended temperature range from -25 °C to +70 °C enables a host of additional applications.

To further increase the 24 V availability, the LOGO!Power power supplies can be combined with DC UPS, redundancy and selectivity modules.

Main product highlights

- 24 V DC / 0.6 A, 1.3 A, 2.5 A and 4.0 A
- Narrow unit with width of 18 mm, 36 mm, 54 mm or 72 mm and overall depth of 53 mm in LOGO! design
- Flexible mounting: Standard rail or wall mounting in a range of installation positions
- Higher energy efficiency: up to 90 % efficiency over the entire load range as well as no-load power losses of < 0.3 W
- Integrated current monitor: Actual output current measurement directly at the power supply unit (for devices at least 36 mm wide)
- Global use: Operating temperature range from -25 °C to +70 °C as well as international certifications such as UL, CSA, FM or ATEX

Technical specifications

Article number	6EP3330-6SB00-0AY0	6EP3331-6SB00-0AY0	6EP3332-6SB00-0AY0	6EP3333-6SB00-0AY0
Product	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power
Power supply, type	24 V/0.6 A	24 V/1.3 A	24 V/2.5 A	24 V/4 A
Input				
Input	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC	1-phase AC or DC
Rated voltage value Vin rated	100 ... 240 V	100 ... 240 V	100 ... 240 V	100 ... 240 V
Voltage range AC	85 ... 264 V	85 ... 264 V	85 ... 264 V	85 ... 264 V
Input voltage				
• at DC	110 ... 300 V	110 ... 300 V	110 ... 300 V	110 ... 300 V
Wide-range input	Yes	Yes	Yes	Yes
Mains buffering at Iout rated, min.	40 ms; at Vin = 187 V	40 ms; at Vin = 187 V	40 ms; at Vin = 187 V	40 ms; at Vin = 187 V
Rated line frequency 1	50 Hz	50 Hz	50 Hz	50 Hz
Rated line frequency 2	60 Hz	60 Hz	60 Hz	60 Hz
Rated line range	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
Input current				
• at rated input voltage 120 V	0.3 A	0.7 A	1.22 A	1.95 A
• at rated input voltage 230 V	0.2 A	0.35 A	0.66 A	0.97 A
Switch-on current limiting (+25 °C), max.	20 A	25 A	52 A	31 A
I ² t, max.	0.8 A ² ·s	0.8 A ² ·s	3 A ² ·s	2.5 A ² ·s
Built-in incoming fuse	internal	internal	internal	internal
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 6 A characteristic B or from 2 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic B or from 2 A characteristic C	Recommended miniature circuit breaker: from 6 A characteristic B or from 6 A characteristic C	Recommended miniature circuit breaker: from 10 A characteristic B or from 6 A characteristic C
Output				
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage Vout DC	24 V	24 V	24 V	24 V
Total tolerance, static ±	3 %	3 %	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %	0.1 %	0.1 %
Static load balancing, approx.	0.1 %	0.1 %	0.1 %	0.1 %
Residual ripple peak-peak, max.	200 mV	200 mV	200 mV	200 mV
Residual ripple peak-peak, typ.	30 mV	30 mV	30 mV	30 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	300 mV	300 mV	300 mV	300 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	50 mV	50 mV	50 mV	50 mV
Adjustment range	22.2 ... 26.4 V	22.2 ... 26.4 V	22.2 ... 26.4 V	22.2 ... 26.4 V
Product function Output voltage adjustable	Yes	Yes	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer	via potentiometer	via potentiometer
Status display	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK
On/off behavior	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
Startup delay, max.	0.5 s	0.5 s	0.5 s	0.5 s
Voltage rise, typ.	100 ms	100 ms	100 ms	100 ms
Rated current value Iout rated	0.6 A	1.3 A	2.5 A	4 A
Current range	0 ... 0.6 A	0 ... 1.3 A	0 ... 2.5 A	0 ... 4 A
• Note	+55 ... +70 °C: Derating 2%/K	+55 ... +70 °C: Derating 2%/K	+55 ... +70 °C: Derating 2%/K	+55 ... +70 °C: Derating 2%/K
Supplied active power typical	14.4 W	31.2 W	60 W	96 W
Parallel switching for enhanced performance	No	Yes	Yes	Yes
Numbers of parallel switchable units for enhanced performance		2	2	2
Efficiency				
Efficiency at Vout rated, Iout rated, approx.	81 %	86 %	90 %	89 %
Power loss at Vout rated, Iout rated, approx.	3 W	5 W	7 W	12 W
Power loss [W] during no-load operation maximum	0.3 W	0.3 W	0.3 W	0.3 W
Closed-loop control				
Dynamic mains compensation (Vin rated ±15 %), max.	0.2 %	0.2 %	0.2 %	0.2 %
Dynamic load smoothing (Iout: 10/90/10 %), Uout ± typ.	2 %	1 %	2 %	2 %
Load step setting time 10 to 90%, typ.	1 ms	1 ms	1 ms	1 ms
Load step setting time 90 to 10%, typ.	1 ms	1 ms	1 ms	1 ms
Protection and monitoring				
Output overvoltage protection	Yes, according to EN 60950-1	Yes, according to EN 60950-1	Yes, according to EN 60950-1	Yes, according to EN 60950-1
Current limitation, typ.	0.8 A	1.7 A	3.2 A	5 A
Property of the output Short-circuit proof	Yes	Yes	Yes	Yes
Short-circuit protection	Constant current characteristic	Constant current characteristic	Constant current characteristic	Constant current characteristic
Enduring short circuit current RMS value				
• maximum	0.8 A	1.7 A	3.2 A	5 A
Overload/short-circuit indicator	-	-	-	-
Safety				
Primary/secondary isolation	Yes	Yes	Yes	Yes
Galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
Protection class	Class II (without protective conductor)	Class II (without protective conductor)	Class II (without protective conductor)	Class II (without protective conductor)
CE mark	Yes	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-Recognized	cULus-listed (UL 508, CSA C22.2 No. 107.1), File E197259; cURus-recognized

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Product	LOGO!Power	LOGO!Power	LOGO!Power	LOGO!Power
Power supply, type	24 V/0.6 A (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	24 V/1.3 A (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	24 V/2.5 A (UL 60950, CSA C22.2 No. 60950), File E151273, NEC class 2 (acc. to UL 1310)	24 V/4 A (UL 60950, CSA C22.2 No. 60950), File E151273
Explosion protection	ATEX (EX) II 3G Ex nA IIC T3; cCSAus (CSA C22.2 No. 213-M1987, ANSI/ISA-12.12.01-2007) Class I, Div. 2, Group ABCD, T4	ATEX (EX) II 3G Ex nA IIC T3; cCSAus (CSA C22.2 No. 213-M1987, ANSI/ISA-12.12.01-2007) Class I, Div. 2, Group ABCD, T4	ATEX (EX) II 3G Ex nA IIC T3; cCSAus (CSA C22.2 No. 213-M1987, ANSI/ISA-12.12.01-2007) Class I, Div. 2, Group ABCD, T4	ATEX (EX) II 3G Ex nA IIC T3; cCSAus (CSA C22.2 No. 213-M1987, ANSI/ISA-12.12.01-2007) Class I, Div. 2, Group ABCD, T4
FM approval	Class I, Div. 2, Group ABCD, T4	Class I, Div. 2, Group ABCD, T4	Class I, Div. 2, Group ABCD, T4	Class I, Div. 2, Group ABCD, T4
CB approval	Yes	Yes	Yes	Yes
Marine approval	available soon	available soon	available soon	available soon
Degree of protection (EN 60529)	IP20	IP20	IP20	IP20
EMC				
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	not applicable	not applicable	not applicable	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
Operating data				
Ambient temperature				
• during operation	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
— Note	with natural convection	with natural convection	with natural convection	with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation	Climate class 3K3, no condensation	Climate class 3K3, no condensation	Climate class 3K3, no condensation
Mechanics				
Connection technology	screw-type terminals	screw-type terminals	screw-type terminals	screw-type terminals
Connections				
• Supply input	L, N: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	L, N: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²	+, -: 2 screw terminals each for 0.5 ... 2.5 mm ²
• Auxiliary	-	-	-	-
Width of the enclosure	18 mm	36 mm	54 mm	72 mm
Height of the enclosure	90 mm	90 mm	90 mm	90 mm
Depth of the enclosure	53 mm	53 mm	53 mm	53 mm
Required spacing				
• top	20 mm	20 mm	20 mm	20 mm
• bottom	20 mm	20 mm	20 mm	20 mm
• left	0 mm	0 mm	0 mm	0 mm
• right	0 mm	0 mm	0 mm	0 mm
Weight, approx.	0.07 kg	0.12 kg	0.2 kg	0.29 kg
Product feature of the enclosure housing for side-by-side mounting	Yes	Yes	Yes	Yes
Installation	Snaps onto DIN rail EN 60715 35x15, various direct mounting positions	Snaps onto DIN rail EN 60715 35x15, various direct mounting positions	Snaps onto DIN rail EN 60715 35x15, various direct mounting positions	Snaps onto DIN rail EN 60715 35x15, various direct mounting positions
MTBF at 40 °C	4 415 040 h	3 094 996 h	2 864 520 h	2 391 480 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

Accessories

SITOP PSE202U redundancy module	6EP1962-2BA00
Input/output: 24 V DC/NEC Class 2 suitable for decoupling two SITOP power supplies output power limited < 100 VA	
SITOP PSE202U redundancy module	6EP1964-2BA00
Input/output: 24 V DC/10 A suitable for decoupling two SITOP power supplies with a maximum of 5 A output current	
SITOP PSE200U 3 A selectivity module	
4-channel selectivity module Input: 24 V DC Output: 24 V DC/3 A per channel Adjustable response threshold 0.5 ... 3 A	
• With common alarm signal	6EP1961-2BA11
• With single-channel signaling	6EP1961-2BA31
SITOP PSE200U 3 A NEC Class 2 selectivity module	
4-channel selectivity module Input: 24 V DC Output: 24 V DC/3 A per channel Adjustable response threshold 0.5 ... 3 A	
• With common alarm signal	6EP1961-2BA51
• With single-channel signaling	6EP1961-2BA61