

LOGO!Power



- 12/2 LOGO!Power 5 V
- 12/4 LOGO!Power 12 V
- 12/6 LOGO!Power 15 V
- 12/8 LOGO!Power 24 V

LOGO!Power 5 V

Overview



Application

The power supplies of the LOGO!Power range are primary switched-mode devices that are optimally matched to the LOGO! logic modules in their functionality and design. With the wide-range input 85 V to 264 V AC, radio interference level B and option for installing in built-in miniature distribution boards, they can be used universally in a diverse range of applications in the low-end performance range.

Technical specifications

Power supply, type	5 V/3 A	5 V/6.3 A
Order No.	6EP1 311-1SH02	6EP1 311-1SH12
Input	Single-phase AC	Single-phase AC
Rated voltage $V_{in \text{ rated}}$	100 - 240 V AC	100 - 240 V AC
Voltage range	Wide-range input 85 ... 264 V AC	Wide-range input 85 ... 264 V AC
Overtolerance resistance	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$
Mains buffering at $I_{out \text{ rated}}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$
Rated line frequency, rated line-frequency range	50/60 Hz, 47 ... 63 Hz	50/60 Hz, 47 ... 63 Hz
Rated current $I_{in \text{ rated}}$	0.36 ... 0.22 A	0.71 ... 0.37 A
Switch-on current limit (+25 °C)	< 15 A	< 30 A
I^2t	< 0.8 A ² s	< 3 A ² s
Built-in line-side fuse	Internal	Internal
Recommended miniature circuit breaker (IEC 898) in the mains power input	From 16 A, Characteristic B or from 10 A, Characteristic C	From 16 A, Characteristic B or from 10 A, Characteristic C
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage $V_{out \text{ rated}}$	5 V DC	5 V DC
Total tolerance, static	±3 %	±3 %
• Static mains compensation	Approx. 0.2 %	Approx. 0.1 %
• Static load smoothing	Approx. 1.5 %	Approx. 2 %
Residual ripple	< 100 mV _{pp} (typ. 10 mV _{pp})	< 100 mV _{pp} (typ. 15 mV _{pp})
Spikes (bandwidth approx. 20 MHz)	< 100 mV _{pp} (typ. 30 mV _{pp})	< 100 mV _{pp} (typ. 30 mV _{pp})
Adjustment range	4,6 ... 5,4 V	4,6 ... 5,4 V
Status display	Green LED for output voltage OK	Green LED for output voltage OK
Response on activation/deactivation	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay/ voltage rise	< 0.5 s/typ. 15 ms	< 0.5 s/typ. 10 ms
Rated current $I_{out \text{ rated}}$	3 A	6.3 A
Current range to +55 °C	0 ... 3 A	0 ... 6.3 A
Parallel switching for enhanced performance	Yes	Yes

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Power supply, type	5 V/3 A	5 V/6.3 A
Order No.	6EP1 311-1SH02	6EP1 311-1SH12
Efficiency		
Efficiency at $V_{out rated}$, $I_{out rated}$	Approx. 76 %	Approx. 83 %
Power losses at $V_{out rated}$, $I_{out rated}$	Approx. 5 W	Approx. 6 W
Closed-loop control		
Dyn. mains compensation ($V_{in rated} \pm 15\%$)	<0.2 % V_{out}	<0.2 % V_{out}
Dynamic load smoothing (I_{out} : 10/90/10 %)	Typ. $\pm 4\%$ V_{out}	Typ. $\pm 6.5\%$ V_{out}
Load step settling time		
• 10 to 90 %	Typ. 20 ms	Typ. 20 ms
• 90 to 10 %	Typ. 20 ms	Typ. 20 ms
Protection and monitoring		
Current limit	Typ. 3.8 A	Typ. 8.2 A
Short-circuit protection	Constant current characteristic	Constant current characteristic
Sustained short-circuit current rms value	< 5 A	< 10 A
Overload/short-circuit indicator	–	–
Safety		
Primary/secondary electrical isolation	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178
Protection class	Class II (without protective conductor)	Class II (without protective conductor)
German Technical Inspectorate approval	Yes; CB scheme	Yes; CB scheme
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273
FM approval	Class I Div. 2, Group A, B, C, D, T4	Class I Div. 2, Group A, B, C, D, T4
Marine approval	GL	GL
Degree of protection (EN 60529)	IP20	IP20
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply-harmonics limitation	Not applicable	Not applicable
Noise immunity	EN 61000-6-2	EN 61000-6-2
Operating data		
Ambient temperature range	–20 ... +55 °C with natural convection	–20 ... +55 °C with natural convection
Transport/storage temperature range	–40 ... +70 °C	–40 ... +70 °C
Humidity class	Climate class 3K3 to EN 60721, no condensation	Climate class 3K3 to EN 60721, no condensation
Mechanics		
Supply-input connections L1, N	One screw terminal each for 0.5 ... 2.5 mm ² single-core/ finely stranded	One screw terminal each for 0.5 ... 2.5 mm ² single-core/ finely stranded
Connections		
• Output +	2 screw terminals for 0.5 ... 2.5 mm ²	2 screw terminals for 0.5 ... 2.5 mm ²
• Output –		
Dimensions (W x H x D) in mm	54 x 90 x 55	72 x 90 x 55
Weight, approx.	0.17 kg	0.25 kg
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15

LOGO!Power 12 V

Overview



Application

The power supplies of the LOGO!Power range are primary switched-mode devices that are optimally matched to the LOGO! logic modules in their functionality and design. With the wide-range input 85 V to 264 V AC, radio interference level B and option for installing in built-in miniature distribution boards, they can be used universally in a diverse range of applications in the low-end performance range.

Technical specifications

Power supply, type	12 V/1.9 A	12 V/4.5 A
Order No.	6EP1 321-1SH02	6EP1 322-1SH02
Input	Single-phase AC	Single-phase AC
Rated voltage $V_{in \text{ rated}}$	100 - 240 V AC	100 - 240 V AC
Voltage range	Wide-range input 85 ... 264 V AC	Wide-range input 85 ... 264 V AC
Overshoot resistance	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$
Mains buffering at $I_{out \text{ rated}}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$
Rated line frequency, rated line-frequency range	50/60 Hz, 47 ... 63 Hz	50/60 Hz, 47 ... 63 Hz
Rated current $I_{in \text{ rated}}$	0.53 ... 0.3 A	1.13 ... 0.61 A
Switch-on current limit (+25 °C)	< 15 A	< 30 A
I^2t	< 0.8 A ² s	< 3 A ² s
Built-in line-side fuse	Internal	Internal
Recommended miniature circuit breaker (IEC 898) in the mains power input	From 16 A, Characteristic B or from 10 A, Characteristic C	From 16 A, Characteristic B or from 10 A, Characteristic C
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage $V_{out \text{ rated}}$	12 V DC	12 V DC
Total tolerance, static	±3 %	±3 %
• Static mains compensation	Approx. 0.2 %	Approx. 0.1 %
• Static load smoothing	Approx. 1.5 %	Approx. 1.5 %
Residual ripple	< 200 mV _{pp} (typ. 10 mV _{pp})	< 200 mV _{pp} (typ. 10 mV _{pp})
Spikes (bandwidth approx. 20 MHz)	< 300 mV _{pp} (typ. 30 mV _{pp})	< 300 mV _{pp} (typ. 40 mV _{pp})
Adjustment range	10.5 ... 16.1 V	10.5 ... 16.1 V
Status display	Green LED for output voltage OK	Green LED for output voltage OK
Response on activation/deactivation	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay/ voltage rise	< 0.5 s/typ. 15 ms	< 0.5 s/typ. 10 ms
Rated current $I_{out \text{ rated}}$	1.9 A	4.5 A
Current range to +55 °C	0 ... 1.9 A	0 ... 4.5 A
Parallel switching for enhanced performance	Yes	Yes

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Power supply, type	12 V/1.9 A	12 V/4.5 A
Order No.	6EP1 321-1SH02	6EP1 322-1SH02
Efficiency		
Efficiency at $V_{out rated} \cdot I_{out rated}$	Approx. 80 %	Approx. 85 %
Power losses at $V_{out rated} \cdot I_{out rated}$	Approx. 5 W	Approx. 10 W
Closed-loop control		
Dyn. mains compensation ($V_{in rated} \pm 15\%$)	<0.2 % V_{out}	<0.2 % V_{out}
Dynamic load smoothing ($I_{out}: 10/90/10\%$)	Typ. $\pm 3\%$ V_{out}	Typ. $\pm 4.2\%$ V_{out}
Load step settling time		
• 10 to 90 %	Typ. 20 ms	Typ. 20 ms
• 90 to 10 %	Typ. 20 ms	Typ. 20 ms
Protection and monitoring		
Current limit	Typ. 2.5 A	Typ. 5.9 A
Short-circuit protection	Constant current characteristic	Constant current characteristic
Sustained short-circuit current rms value	< 4 A	< 8 A
Overload/short-circuit indicator	–	–
Safety		
Primary/secondary electrical isolation	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178
Protection class	Class II (without protective conductor)	Class II (without protective conductor)
German Technical Inspectorate approval	Yes; CB scheme	Yes; CB scheme
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273
FM approval	Class I Div. 2, Group A, B, C, D T4	Class I Div. 2, Group A, B, C, D T4
Marine approval	GL, ABS	GL, ABS
Degree of protection (EN 60529)	IP20	IP20
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply-harmonics limitation	Not applicable	Not applicable
Noise immunity	EN 61000-6-2	EN 61000-6-2
Operating data		
Ambient temperature range	–20 ... +55 °C with natural convection	–20 ... +55 °C with natural convection
Transport/storage temperature range	–40 ... +70 °C	–40 ... +70 °C
Humidity class	Climate class 3K3 to EN 60721, no condensation	Climate class 3K3 to EN 60721, no condensation
Mechanics		
Connections		
• Supply input L1, N	One screw terminal each for 0.5 ... 2.5 mm ² single-core/ finely stranded	One screw terminal each for 0.5 ... 2.5 mm ² single-core/ finely stranded
• Output +		
• Output –	2 screw terminals for 0.5 ... 2.5 mm ²	2 screw terminals for 0.5 ... 2.5 mm ²
Dimensions (W x H x D) in mm	54 x 90 x 55	72 x 90 x 55
Weight, approx.	0.17 kg	0.25 kg
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15

LOGO!Power 15 V

Overview



Application

The power supplies of the LOGO!Power range are primary switched-mode devices that are optimally matched to the LOGO! logic modules in their functionality and design. With the wide-range input 85 V to 264 V AC, radio interference level B and option for installing in built-in miniature distribution boards, they can be used universally in a diverse range of applications in the low-end performance range.

Technical specifications

Power supply, type	15 V/1.9 A	15 V/4 A
Order No.	6EP1 351-1SH02	6EP1 352-1SH02
Input	Single-phase AC	Single-phase AC
Rated voltage $V_{in \text{ rated}}$	100 - 240 V AC	100 - 240 V AC
Voltage range	Wide-range input 85 ... 264 V AC	Wide-range input 85 ... 264 V AC
Overshoot strength	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$
Mains buffering at $I_{out \text{ rated}}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$
Rated line frequency, rated line-frequency range	50/60 Hz, 47 ... 63 Hz	50/60 Hz, 47 ... 63 Hz
Rated current $I_{in \text{ rated}}$	0.63 ... 0.33 A	1.24 ... 0.68 A
Switch-on current limit (+25 °C)	< 15 A	< 30 A
I^2t	< 0.8 A ² s	< 3 A ² s
Built-in line-side fuse	Internal	Internal
Recommended miniature circuit breaker (IEC 898) in the mains power input	From 16 A, Characteristic B or from 10 A, Characteristic C	From 16 A, Characteristic B or from 10 A, Characteristic C
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage $V_{out \text{ rated}}$	15 V DC	15 V DC
Total tolerance, static	±3 %	±3 %
• Static mains compensation	Approx. 0.1 %	Approx. 0.1 %
• Static load smoothing	Approx. 1.5 %	Approx. 1.5 %
Residual ripple	< 200 mV _{pp} (typ. 10 mV _{pp})	< 200 mV _{pp} (typ. 10 mV _{pp})
Spikes (bandwidth approx. 20 MHz)	< 300 mV _{pp} (typ. 30 mV _{pp})	< 300 mV _{pp} (typ. 40 mV _{pp})
Adjustment range	10.5 ... 16.1 V	10.5 ... 16.1 V
Status display	Green LED for output voltage OK	Green LED for output voltage OK
Response on activation/deactivation	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay/ voltage rise	< 0.5 s/typ. 15 ms	< 0.5 s/typ. 10 ms
Rated current $I_{out \text{ rated}}$	1.9 A	4 A
Current range to +55 °C	0 ... 1.9 A	0 ... 4 A
Parallel switching for enhanced performance	Yes	Yes

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Power supply, type	15 V/1.9 A	15 V/4 A
Order No.	6EP1 351-1SH02	6EP1 352-1SH02
Efficiency		
Efficiency at $V_{out rated}$, $I_{out rated}$	Approx. 80 %	Approx. 85 %
Power losses at $V_{out rated}$, $I_{out rated}$	Approx. 7 W	Approx. 11 W
Closed-loop control		
Dyn. mains compensation ($V_{in rated} \pm 15\%$)	<0.2 % V_{out}	<0.2 % V_{out}
Dynamic load smoothing (I_{out} : 10/90/10 %)	Typ. $\pm 2.8\%$ V_{out}	Typ. $\pm 3.3\%$ V_{out}
Load step settling time		
• 10 to 90 %	Typ. 20 ms	Typ. 20 ms
• 90 to 10 %	Typ. 20 ms	Typ. 20 ms
Protection and monitoring		
Current limit	Typ. 2.7 A	Typ. 5.0 A
Short-circuit protection	Constant current characteristic	Constant current characteristic
Sustained short-circuit current rms value	< 4 A	< 8 A
Overload/short-circuit indicator	–	–
Safety		
Primary/secondary electrical isolation	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178
Protection class	Class II (without protective conductor)	Class II (without protective conductor)
German Technical Inspectorate approval	Yes; CB scheme	Yes; CB scheme
CE mark	Yes	Yes
UL/cUL (CSA) approval	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273
FM approval	Class I Div. 2, Group A, B, C, D T4	Class I Div. 2, Group A, B, C, D T4
Marine approval	GL	GL
Degree of protection (EN 60529)	IP20	IP20
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply-harmonics limitation	Not applicable	Not applicable
Noise immunity	EN 61000-6-2	EN 61000-6-2
Operating data		
Ambient temperature range	–20 ... +55 °C with natural convection	–20 ... +55 °C with natural convection
Transport/storage temperature range	–40 ... +70 °C	–40 ... +70 °C
Humidity class	Climate class 3K3 to EN 60721, no condensation	Climate class 3K3 to EN 60721, no condensation
Mechanics		
Supply-input connections L1, N	One screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	One screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
Connections		
• Output +	2 screw terminals for 0.5 ... 2.5 mm ²	2 screw terminals for 0.5 ... 2.5 mm ²
• Output –		
Dimensions (W x H x D) in mm	54 x 90 x 55	72 x 90 x 55
Weight, approx.	0.17 kg	0.25 kg
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15

LOGO!Power 24 V

Overview



Application

The power supplies of the LOGO!Power range are primary switched-mode devices that are optimally matched to the LOGO! logic modules in their functionality and design. With the wide-range input 85 V to 264 V AC, radio interference level B and option for installing in built-in miniature distribution boards, they can be used universally in a diverse range of applications in the low-end performance range.

Technical specifications

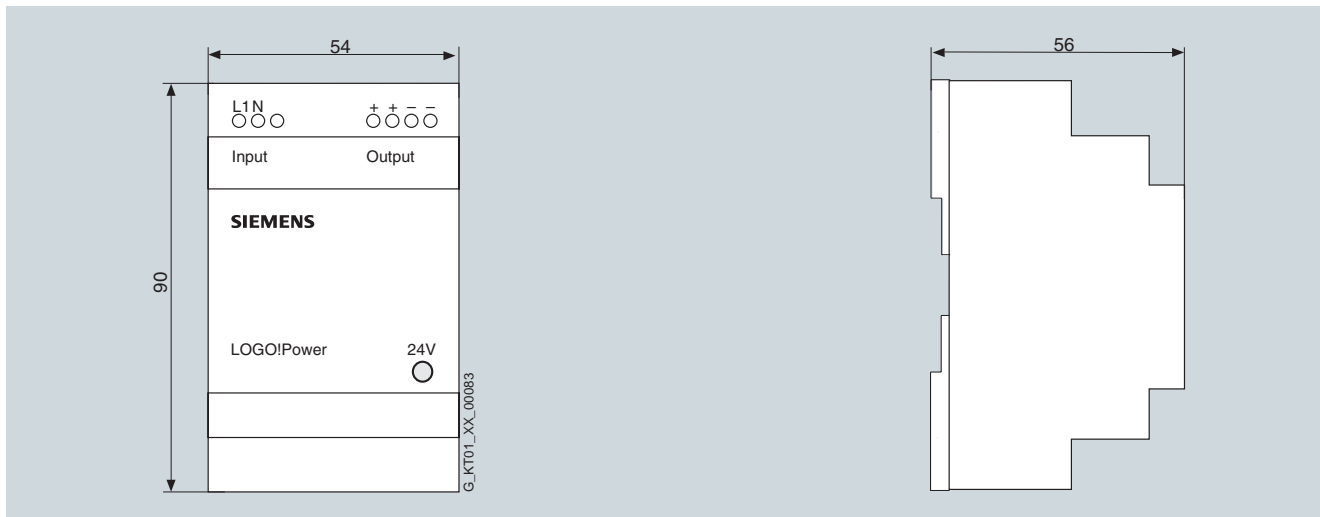
Power supply, type	24 V/1.3 A	24 V/2.5 A	24 V/4 A
Order No.	6EP1 331-1SH02	6EP1 332-1SH42	6EP1 332-1SH51
Input	Single-phase AC	Single-phase AC	Single-phase AC
Rated voltage $V_{in \text{ rated}}$	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC
Wide-range input	85 ... 264 V AC	85 ... 264 V AC	85 ... 264 V AC
Voltage range	85 ... 264 V AC	85 ... 264 V AC	85 ... 264 V AC
Overvoltage resistance	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$
Mains buffering at $I_{out \text{ rated}}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$
Rated line frequency, rated line-frequency range	50/60 Hz, 47 ... 63 Hz	50/60 Hz, 47 ... 63 Hz	50/60 Hz, 47 ... 63 Hz
Rated current $I_{in \text{ rated}}$	0.7 ... 0.35 A	1.22 ... 0.66 A	1.95 ... 0.97 A
Switch-on current limit (+25 °C)	< 15 A	< 30 A	< 30 A
I^2t	< 0.8 A ² s	< 3 A ² s	< 2.5 A ² s
Built-in line-side fuse	Internal	Internal	Internal
Recommended miniature circuit breaker (IEC 898) in the mains power input	From 16 A, Characteristic B or from 10 A, Characteristic C	From 16 A, Characteristic B or from 10 A, Characteristic C	From 16 A, Characteristic B or from 10 A, Characteristic C
Output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage $V_{out \text{ rated}}$	24 V DC	24 V DC	24 V DC
Total tolerance, static	±3 %	±3 %	±3 %
• Static mains compensation	Approx. 0.1 %	Approx. 0.1 %	Approx. 0.1 %
• Static load smoothing	Approx. 1.5 %	Approx. 1.5 %	Approx. 1.5 %
Residual ripple	< 200 mV _{pp} (typ. 10 mV _{pp})	< 200 mV _{pp} (typ. 10 mV _{pp})	< 200 mV _{pp} (typ. 10 mV _{pp})
Spikes (bandwidth approx. 20 MHz)	< 300 mV _{pp} (typ. 20 mV _{pp})	< 300 mV _{pp} (typ. 40 mV _{pp})	< 300 mV _{pp} (typ. 80 mV _{pp})
Adjustment range	22.2 ... 26.4 V	22.2 ... 26.4 V	22.2 ... 26.4 V
Status display	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK
Response on activation/deactivation	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Startup delay/voltage rise	< 0.5 s/typ. 15 ms	< 0.5 s/typ. 10 ms	< 0.5 s/typ. 35 ms
Rated current $I_{out \text{ rated}}$	1.3 A	2.5 A	4 A
Current range up to +55 °C	0 ... 1.3 A	0 ... 2.5 A	0 ... 4 A
Parallel switching for enhanced performance	Yes	Yes	Yes

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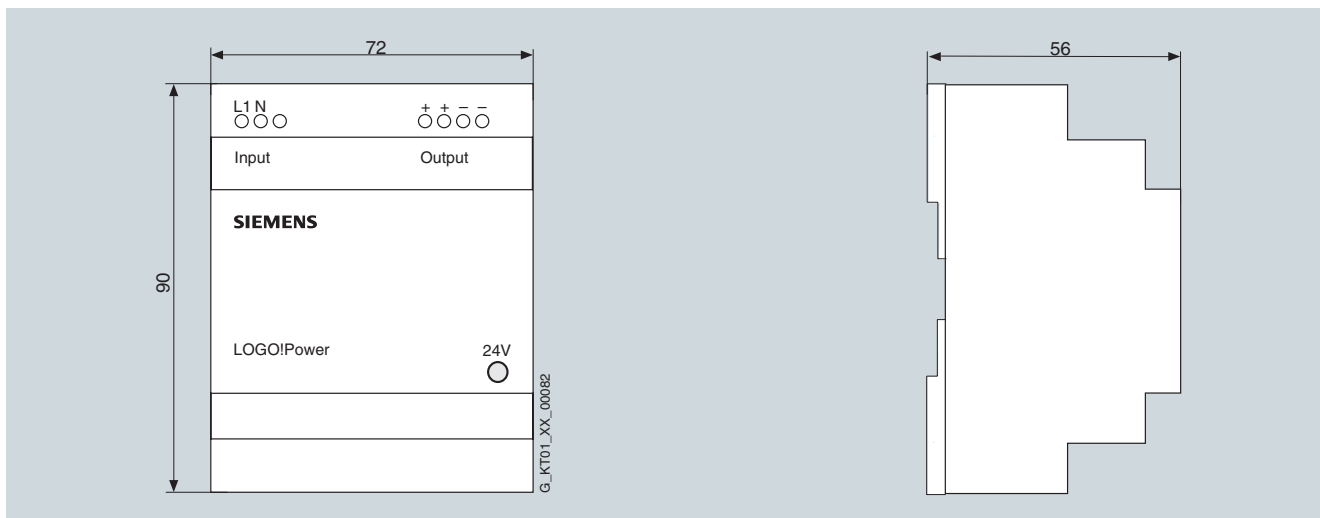
Power supply, type	24 V/1.3 A	24 V/2.5 A	24 V/4 A
Order No.	6EP1 331-1SH02	6EP1 332-1SH42	6EP1 332-1SH51
Efficiency			
Efficiency at $V_{out rated}$, $I_{out rated}$	Approx. 82 %	Approx. 87 %	Approx. 89 %
Power losses at $V_{out rated}$, $I_{out rated}$	Approx. 7 W	Approx. 9 W	Approx. 12 W
Closed-loop control			
Dyn. mains compensation ($V_{in rated} \pm 15\%$)	<0.2 % V_{out}	<0.2 % V_{out}	<0.2 % V_{out}
Dynamic load smoothing (I_{out} : 10/90/10 %)	Typ. $\pm 1.5\%$ V_{out}	Typ. $\pm 1.5\%$ V_{out}	Typ. $\pm 1.5\%$ V_{out}
Load step settling time			
10 to 90 %	Typ. 20 ms	Typ. 20 ms	Typ. 20 ms
90 to 10 %	Typ. 20 ms	Typ. 20 ms	Typ. 20 ms
Protection and monitoring			
Current limit	Typ. 2 A	Typ. 3.4 A	Typ. 4.7 A
Short-circuit protection	Constant current characteristic	Constant current characteristic	Constant current characteristic
Sustained short-circuit current rms value	< 4 A	< 8 A	< 10 A
Overload/short-circuit indicator	–	–	–
Safety			
Primary/secondary electrical isolation	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178	Yes, safety extra-low output voltage V_{out} to EN 60950 and EN 50178
Protection class	Class II (without protective conductor)	Class II (without protective conductor)	Class II (without protective conductor)
German Technical Inspectorate approval	Yes; CB scheme	Yes; CB scheme	Yes; CB scheme
CE mark	Yes	Yes	Yes
UL/cUL (CSA) approval	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273	cULus-listed (UL 508, CSA C22.2 No. 14), File E197259; cURus-recognized (UL 60950, CSA C22.2 No. 60950), File E151273
FM approval	Class I Div. 2, Group A, B, C, D T4	Class I Div. 2, Group A, B, C, D T4	Class I Div. 2, Group A, B, C, D T4
Marine approval	GL, ABS	GL, ABS	GL, ABS
Degree of protection (EN 60529)	IP20	IP20	IP20
EMC			
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply-harmonics limitation	Not applicable	Not applicable	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
Operating data			
Ambient temperature range	–20 ... +55 °C with natural convection	–20 ... +55 °C with natural convection	–20 ... +55 °C with natural convection
Transport/storage temperature range	–40 ... +70 °C	–40 ... +70 °C	–40 ... +70 °C
Humidity class	Climate class 3K3 to EN 60721, no condensation	Climate class 3K3 to EN 60721, no condensation	Climate class 3K3 to EN 60721, no condensation
Mechanics			
Supply-input connections L1, N	One screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	One screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded	One screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
Connections			
• Output +	2 screw terminals for 0.5 ... 2.5 mm ²	2 screw terminals for 0.5 ... 2.5 mm ²	2 screw terminals for 0.5 ... 2.5 mm ²
• Output –			
Dimensions (W x H x D) in mm	54 x 90 x 55	72 x 90 x 55	90 x 90 x 55
Weight, approx.	0.17 kg	0.25 kg	0.34 kg
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15

Dimensions in mm

Order No.: **6EP1 311-1SH02, 6EP1 321-1SH02, 6EP1 351-1SH02, 6EP1 331-1SH02**



Order No.: **6EP1 311-1SH12, 6EP1 322-1SH02, 6EP1 352-1SH02, 6EP1 332-1SH42**



Order No.: **6EP1 332-1SH51**

