

Single-phase, primary switched mode power supply **PEL 230**



General Data

Input voltage range 85 - 264 Vac
Output rated voltage 5 - 24 Vdc
Output rated current 1.3 - 6.5 A
Ambient temperature -25 °C to +55 °C
Efficiency up to 88 %
Protection index IP 20

Advantages

Stabilised and adjustable output voltage
DC OK signalling via LEDs
Parallel connection option
Service-friendly spring-loaded connector system
Panel installation on mounting rails

Applications

Primary switched mode power supply is concentrated on the core task of voltage and current supply. Flat step profile optimised for installation in control panels in the building automation.

Standards

Primary switched mode power supply
to UL 60950, UL 508

Safety:
EN 61558-2-16, EN 60950-1

EMC:
EN 61204-3

Approvals



UL/CSA 60950 recognised (E213214), UL508 listed (E219022),
Germanischer Lloyd



Single-phase, primary switched mode power supply

PEL 230

Electrical data	Typ	PEL 230/5-5,5	PEL 230/12-2	PEL 230/12-4	PEL 230/12-6,5
	Input				
	Input rated voltage	100 - 240 Vac	100 - 240 Vac	100 - 240 Vac	100 - 240 Vac
	Input voltage range	85 - 264 Vac (120 - 373 Vdc)	85 - 264 Vac (120 - 373 Vdc)	85 - 264 Vac (120 - 373 Vdc)	85 - 264 Vac (120 - 373 Vdc)
	Input rated current (rated load)	0.9 / 0.5 A (110 / 230 Vac)	0.7 / 0.4 A (110 / 230 Vac)	0.9 / 0.5 A (110 / 230 Vac)	1.5 / 0.5 A (110 / 230 Vac)
	Rated frequency range	44 - 66 Hz / 0 Hz	44 - 66 Hz / 0 Hz	44 - 66 Hz / 0 Hz	44 - 66 Hz / 0 Hz
	Starting current limiter	<30 A, NTC	<30 A, NTC	<30 A, NTC	<30 A, NTC
	Input fuse internal	2 A (slow-blow)	2 A (slow-blow)	2 A (slow-blow)	4 A
	Recommended back-up fuse (circuit breaker)	6 A, 10 A, 16 A, characteristics B, C	6 A, 10 A, 16 A, characteristics B, C	6 A, 10 A, 16 A, characteristics B, C	6 A, 10 A, 16 A, characteristics B, C
	Mains buffering (rated load)	10 / 80 ms	10 / 80 ms	10 / 80 ms	15 / 100 ms
	Transient surge voltage protection	Varistor	Varistor	Varistor	Varistor
	Output				
	Output rated voltage	5 Vdc	12 Vdc	12 Vdc	12 Vdc
	Output voltage range	4.5 - 8.5 Vdc	10.5 - 15.5 Vdc	10.5 - 15.5 Vdc	10.5 - 15.5 Vdc
	Output rated current	5.50 A	2.00 A	4.00 A	6.50 A
	Resistance to reverse feed max.	10 Vdc	25 Vdc	25 Vdc	25 Vdc
	Overload behaviour	Constant current	Constant current	Constant current	Constant current
	Ripple factor	typ. 100 mVss	typ. 100 mVss	typ. 100 mVss	typ. 100 mVss
	Parallel connection	Yes	Yes	Yes	Yes
	Serial operation	Yes	Yes	Yes	Yes
	Efficiency	typ. 85 %	typ. 80 %	typ. 85 %	typ. 87 %
	Signaling				
	Power Good (DC OK)	LED green	LED green	LED green	LED green
	Approvals	-	cURus, cULus, GL	cURus, cULus, GL	cURus, cULus, GL
	Environment				
	Ambient temperature	-25 °C to +55 °C	-25 °C to +55 °C	-25 °C to +55 °C	-25 °C to +55 °C
	Storage temperature	-25 °C to +85 °C	-25 °C to +85 °C	-25 °C to +85 °C	-25 °C to +85 °C
	Derating	-3 %/K > +45 °C	-3 %/K > +45 °C	-3 %/K > +45 °C	-3 %/K > +45 °C
	Current capacity by any mounting position	max. 3.5 A	max. 1.4 A	max. 2.4 A	max. 3.9 A
	Safety and protection				
	Protection index	IP 20	IP 20	IP 20	IP 20
	Safety class	II, (in closed cabinet)	II, (in closed cabinet)	II, (in closed cabinet)	II, (in closed cabinet)
	Order numbers				
	Order Number	PEL 230/5-5,5	PEL 230/12-2	PEL 230/12-4	PEL 230/12-6,5



Single-phase, primary switched mode power supply

PEL 230

Electrical data	Typ	PEL 230/18-1,1	PEL 230/18-2,5	PEL 230/24-1,3	PEL 230/24-2,5
	Input				
	Input rated voltage	100 - 240 Vac	100 - 240 Vac	100 - 240 Vac	100 - 240 Vac
	Input voltage range	85 - 264 Vac (120 - 373 Vdc)	85 - 264 Vac (120 - 373 Vdc)	85 - 264 Vac (120 - 373 Vdc)	85 - 264 Vac (120 - 373 Vdc)
	Input rated current (rated load)	0.45 / 0.23 A (110 / 230 Vac)	0.72 / 0.42 A (110 / 230 Vac)	0.7 / 0.4 A (110 / 230 Vac)	1.4 / 0.6 A (110 / 230 Vac)
	Rated frequency range	44 - 66 Hz / 0 Hz	44 - 66 Hz / 0 Hz	44 - 66 Hz / 0 Hz	44 - 66 Hz / 0 Hz
	Starting current limiter	<30 A, NTC	<30 A, NTC	<30 A, NTC	<30 A, NTC
	Input fuse internal	2 A (slow-blow)	4 A (slow-blow)	2 A (slow-blow)	2 A (slow-blow)
	Recommended back-up fuse (circuit breaker)	6 A, 10 A, 16 A, characteristics B, C	6 A, 10 A, 16 A, characteristics B, C	6 A, 10 A, 16 A, characteristics B, C	6 A, 10 A, 16 A, characteristics B, C
	Mains buffering (rated load)	10 / 80 ms	25 / 120 ms	10 / 80 ms	10 / 80 ms
	Transient surge voltage protection	Varistor	Varistor	Varistor	Varistor
	Output				
	Output rated voltage	18 Vdc	18 Vdc	24 Vdc	24 Vdc
	Output voltage range	15.5 - 19.0 Vdc	15 - 28 Vdc	22.8 - 26.4 Vdc	22.8 - 26.4 Vdc
	Output rated current	1.10 A	2.50 A	1.30 A	2.50 A
	Resistance to reverse feed max.	25 Vdc	35 Vdc	30 Vdc	30 Vdc
	Overload behaviour	Constant current	Constant current	Constant current	Constant current
	Ripple factor	typ. 100 mVss	typ. 50 mVss	typ. 100 mVss	typ. 100 mVss
	Parallel connection	Yes	Yes	Yes	Yes
	Serial operation	Yes	Yes	Yes	Yes
	Efficiency	typ. 80 %	typ. 83 %	typ. 82 %	typ. 88 %
	Signaling				
	Power Good (DC OK)	LED green	LED green	LED green	LED green
	Approvals				
	Approvals	cURus, cULus, GL	cURus, cULus	cURus, cULus, GL	cURus, cULus, GL
	Environment				
	Ambient temperature	-25 °C to +55 °C	-25 °C to +55 °C	-25 °C to +55 °C	-25 °C to +55 °C
	Storage temperature	-25 °C to +85 °C	-25 °C to +85 °C	-25 °C to +85 °C	-25 °C to +85 °C
	Derating	-3 %/K > +45 °C	-3 %/K > +45 °C	-3 %/K > +45 °C	-3 %/K > +45 °C
	Current capacity by any mounting position	max. 0.8 A	max. 1.6 A	max. 0.9 A	max. 1.6 A
	Safety and protection				
	Protection index	IP 20	IP 20	IP 20	IP 20
	Safety class	II, (in closed cabinet)	II, (in closed cabinet)	II, (in closed cabinet)	II, (in closed cabinet)
	Order numbers				
	Order Number	PEL 230/18-1,1	PEL 230/18-2,5	PEL 230/24-1,3	PEL 230/24-2,5



Single-phase, primary switched mode power supply

PEL 230

Electrical data	Typ	PEL 230/24-4
	Input	
Input rated voltage		100 - 240 Vac
Input voltage range		85 - 264 Vac (120 - 373 Vdc)
Input rated current (rated load)		1.6 / 0.9 A (110 / 230 Vac)
Rated frequency range		44 - 66 Hz / 0 Hz
Starting current limiter		<30 A, NTC
Input fuse internal		4 A
Recommended back-up fuse (circuit breaker)		6 A, 10 A, 16 A, characteristics B, C
Mains buffering (rated load)		15 / 100 ms
Transient surge voltage protection		Varistor
Output		
Output rated voltage		24 Vdc
Output voltage range		22,8 - 26,4 Vdc
Output rated current		4.00 A
Resistance to reverse feed max.		30 Vdc
Overload behaviour		Constant current
Ripple factor		typ. 100 mVss
Parallel connection		Yes
Serial operation		Yes
Efficiency		typ. 88 %
Signaling		
Power Good (DC OK)		LED green
Approvals		
Approvals		cURus, cULus, GL
Environment		
Ambient temperature		-25 °C to +55 °C
Storage temperature		-25 °C to +85 °C
Derating		-3 %/K > +45 °C
Current capacity by any mounting position		max. 2.4 A
Safety and protection		
Protection index		IP 20
Safety class		II, (in closed cabinet)
Order numbers		
Order Number		PEL 230/24-4



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power supply

PEL 230

Mechanical data	Type	Terminals input, (spring clamp terminal)	Terminals output, (spring clamp terminal)	Mounting position	Fixing method	Weight	Dimension picture (in mm)				
								A	B	C	D
30	PEL 230/5-5,5	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.24 kg	1	72	89	59	54
	PEL 230/12-2	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.17 kg	1	54	89	59	54
	PEL 230/12-4	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.24 kg	2	72	89	59	54
	PEL 230/12-6,5	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.30 kg	3	90	89	59	54
	PEL 230/18-1,1	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.17 kg	1	54	89	59	54
	PEL 230/18-2,5	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.24 kg	2	72	89	59	54
	PEL 230/24-1,3	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.17 kg	3	54	89	59	54
	PEL 230/24-2,5	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.24 kg	1	72	89	59	54
	PEL 230/24-4	max. 2.5 mm ²	max. 2.5 mm ²	vertical	DIN rail system TS35	0.30 kg	4	90	89	59	54

Dimension pictures

