Three-phase, primary switched mode power supply, Economy
PVSE 400

General Data

- Input rated voltage 3 x 400 - 500 Vac
- Output rated voltage 24 - 48 Vdc
- Output rated current 10 - 40 A
- Ambient temperature -25 °C to +70 °C
- Efficiency up to 95 %
- Protection index IP 20

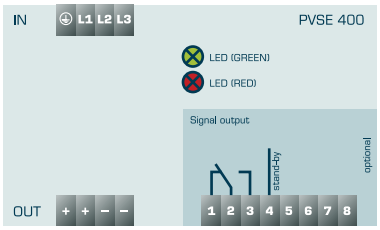
Advantages

- Stabilised and adjustable output voltage
- Up to 200 % Real Power Boost for 4 seconds
- Top Boost to trip conventional circuit breakers
- DC OK signalling
- Parallel connection option
- Service-friendly spring-loaded connector system
- Can be supplied with active inrush current limiting option
- Can be supplied with isolated DC OK signalling function
- Panel installation on mounting rails

Applications

Primary switched mode power supply with massive power reserves focussing on the key task of power supply.

Sample application



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)

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Electrical data

Typ	PVSE 400/24-10	PVSE 400/24-20	PVSE 400/24-40	PVSE 400/30-25
Input				
Input rated voltage	3 x 400 - 500 Vac	3 x 400 - 500 Vac	3 x 400 - 500 Vac	3 x 400 - 500 Vac
Input voltage range	340 - 550 Vac (480 - 780 Vdc)	340 - 550 Vac (480 - 780 Vdc)	340 - 550 Vac (480 - 780 Vdc)	340 - 550 Vac (480 - 780 Vdc)
Input rated current (rated load)	0.6 A (3 x 340 Vac)	1.1 A (3 x 340 Vac)	2 A (3 x 340 Vac)	1.6 A (3 x 340 Vac)
Rated frequency range	44 Hz - 66 Hz / 0 Hz	44 Hz - 66 Hz / 0 Hz	44 Hz - 66 Hz / 0 Hz	44 Hz - 66 Hz / 0 Hz
Starting current limiter	<30 A, NTC	<30 A, NTC	<30 A, NTC	<30 A, NTC
Input fuse internal	3 x 1.6 A (slow-blow)	3 x 2.5 A (slow-blow)	3 x 6.3 A (slow-blow)	3 x 6.3 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	10 A, 16 A, characteristics B, C	10 A, 16 A, characteristics B, C
Harmonic correction	passive	passive	passive	passive
Mains buffering (rated load)	22.6 / 51.5 ms (400 / 500 Vac)	13.2 / 36.8 ms (400 / 500 Vac)	15.6 / 42.9 ms (400 / 500 Vac)	15.6 / 42.9 ms (400 / 500 Vac)
Transient surge voltage protection	Varistor	Varistor	Varistor	Varistor
Output				
Output rated voltage	24 Vdc	24 Vdc	24 Vdc	30 Vdc
Output voltage range	22.8 - 28.8 Vdc	22.8 - 28.8 Vdc	22.8 - 28.8 Vdc	27 - 43 Vdc
Resistance to reverse feed max.	35 Vdc	35 Vdc	35 Vdc	63 Vdc
Output rated current	10.00 A	20.00 A	40.00 A	25.00 A
Parallel connection	Yes	Yes	Yes	Yes
Power Boost	20 A / 4 s (15 A / 8 s)	40 A / 4 s (30 A / 8 s)	60 A / 4 s (50 A / 8 s)	45 A / 4 s (35 A / 8 s)
Overload behaviour	Constant current	Constant current	Constant current	Constant current
max. Power loss idling/nominal load	7.8 / 19.9 W	8.3 / 38.4 W	7.0 / 66.2 W	5.2 / 47.3 W
Serial operation	Yes	Yes	Yes	Yes
Efficiency	typ. 91.7 %	typ. 92.9 %	typ. 93.1 %	typ. 94.1 %
Ripple factor	typ. 70 mVss	typ. 70 mVss	typ. 70 mVss	typ. 70 mVss
Top Boost	70 A / 50 ms	80 A / 50 ms	100 A / 50 ms	85 A / 50 ms
Signaling				
Power Good (DC OK)	LED green, LED red	LED green, LED red	LED green, LED red	LED green, LED red
Potential free signal contact	Yes	Yes	Yes	Yes
Stand-by-input	Yes	Yes	Yes	Yes
Approvals				
Approvals	cURus, cULus	cURus, cULus	cURus, cULus	cURus, cULus
Environment				
Ambient temperature	-25 °C to +70 °C	-25° C to +70° C	-25 °C to +55 °C	-25° C to +70° 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 > +50 °C	-3 %/K > +50 °C	-5 %/K > +45 °C	-3 %/K > +50 °C
Safety and protection				
Protection index	IP 20	IP 20	IP 20	IP 20
Safety class	I, with PE connection	I, with PE connection	I, with PE connection	I, with PE connection
Accessory				
Connector for signalling	PV-CON (optional)	PV-CON (optional)	PV-CON (optional)	PV-CON (optional)
Side DIN rail mounting	PV-TS35M (optional)	PV-TS35M (optional)	PV-TS35M (optional)	PV-TS35M (optional)
Direct screw fastening plate for lateral mounting	PV-WB2 (optional)	PV-WB2 (optional)	PV-WB2 (optional)	PV-WB2 (optional)
Order numbers				
Order Number	**PVSE 400/24-10**	**PVSE 400/24-20**	**PVSE 400/24-40**	**PVSE 400/30-25**

Three-phase, primary switched mode power supply, Economy
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Electrical data

Typ	PVSE 400/48-10	PVSE 400/48-20
Input		
Input rated voltage	3 x 400 - 500 Vac	3 x 400 - 500 Vac
Input voltage range	340 - 550 Vac (480 - 780 Vdc)	340 - 550 Vac (480 - 780 Vdc)
Input rated current (rated load)	1.1 A (3 x 340 Vac)	2 A (3 x 340 Vac)
Rated frequency range	44 Hz - 66 Hz / 0 Hz	44 Hz - 66 Hz / 0 Hz
Starting current limiter	<30 A, NTC	<30 A, NTC
Input fuse internal	3 x 6.3 A (slow-blow)	3 x 6.3 A (slow-blow)
Recommended back-up fuse (circuit breaker)	10 A, 16 A, characteristics B, C	10 A, 16 A, characteristics B, C
Harmonic correction	passive	passive
Mains buffering (rated load)	12 / 35 ms (400 / 500 Vac)	15.6 / 42.9 ms (400 / 500 Vac)
Transient surge voltage protection	Varistor	Varistor
Output		
Output rated voltage	48 Vdc	48 Vdc
Output voltage range	37 - 51 Vdc	37 - 51 Vdc
Resistance to reverse feed max.	63 Vdc	63 Vdc
Output rated current	10.00 A	20.00 A
Parallel connection	Yes	Yes
Power Boost	15 A / 4 s (12.5 A / 8 s)	30 A / 4 s (25 A / 8 s)
Overload behaviour	Constant current	Constant current
max. Power loss idling/nominal load	8.2 / 38 W	5.2 / 59.2 W
Serial operation	Yes	Yes
Efficiency	typ. 93 %	typ. 94.4 %
Ripple factor	typ. 70 mVss	typ. 70 mVss
Top Boost	55 A / 50 ms	80 A / 50 ms
Signaling		
Power Good (DC OK)	LED green, LED red	LED green, LED red
Potential free signal contact	Yes	Yes
Stand-by-input	Yes	Yes
Approvals		
Approvals	cURus, cULus	cURus, cULus
Environment		
Ambient temperature	-25° C to +70° C	-25° C to +70° C
Storage temperature	-25 °C to +85 °C	-25 °C to +85 °C
Derating	-3 %/K > +50 °C	-3 %/K > +50 °C
Safety and protection		
Protection index	IP 20	IP 20
Safety class	I, with PE connection	I, with PE connection
Accessory		
Connector for signalling	PV-CON (optional)	PV-CON (optional)
Side DIN rail mounting	PV-TS35M (optional)	PV-TS35M (optional)
Direct screw fastening plate for lateral mounting	PV-WB2 (optional)	PV-WB2 (optional)
Order numbers		
Order Number	**PVSE 400/48-10**	**PVSE 400/48-20**

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PVSE 400

Mechanical data 30

Typ	Terminals input, (spring clamp terminal, pluggable)	Terminals output, (spring clamp terminal, pluggable)	Terminals signalling, (spring clamp terminal, pluggable)	Mounting position	Fixing method	Weight	Dimension picture (in mm)	A	B	C	D	E
PVSE 400/24-10	max. 2.5 mm²	max. 2.5 mm²	max. 0.5 mm²	vertical	DIN Rail system TS35	1.30 kg	❶	57	179.5	127	76	12.5
PVSE 400/24-20	max. 2.5 mm²	max. 10 mm²	max. 0.5 mm²	vertical	DIN Rail system TS35	1.76 kg	❷	77	179.5	127	76	12.5
PVSE 400/24-40	max. 2.5 mm²	max. 10 mm²	max. 0.5 mm²	vertical	DIN Rail system TS35	3.03 kg	❸	128	205.5	127	76	12.5
PVSE 400/30-25	max. 2.5 mm²	max. 10 mm²	max. 0.5 mm²	vertical	DIN Rail system TS35	3.03 kg	❸	128	205.5	127	76	12.5
PVSE 400/48-10	max. 2.5 mm²	max. 10 mm²	max. 0.5 mm²	vertical	DIN Rail system TS35	1.76 kg	❷	77	179.5	127	76	12.5
PVSE 400/48-20	max. 2.5 mm²	max. 10 mm²	max. 0.5 mm²	vertical	DIN Rail system TS35	3.03 kg	❸	128	205.5	127	76	12.5

Dimension pictures

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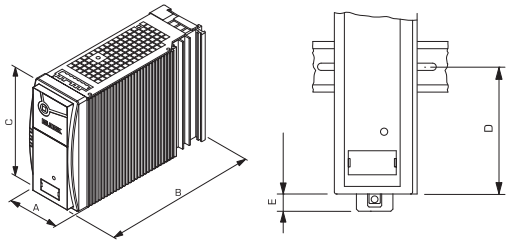

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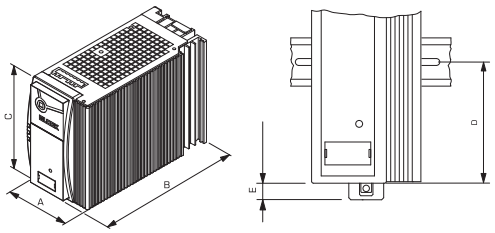

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