## **SIEMENS**

Data sheet 6EP1436-2BA10

SITOP PSU300S 24 V/20 A SITOP PSU300S 20 A Stabilized power supply input: 3 AC 400-500 V output: 24 V DC/20 A



Input	
Input	3-phase AC
Rated voltage value Vin rated	400 500 V
Voltage range AC	340 550 V
Wide-range input	Yes
Mains buffering	at Vin = 400 V
Mains buffering at lout rated, min.	6 ms; at Vin = 400 V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 63 Hz
Input current	
<ul> <li>at rated input voltage 400 V</li> </ul>	1.2 A
<ul> <li>at rated input voltage 500 V</li> </ul>	1 A
Switch-on current limiting (+25 °C), max.	36 A
l²t, max.	0.9 A <sup>2</sup> ·s
Built-in incoming fuse	none
Protection in the mains power input (IEC 898)	Required: 3-pole connected miniature circuit breaker 6 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)

Output  Reted voltage Vout DC  Reted voltage Vout DC  24 V  Total tolerance, static ± 3 %  Static mains compensation, approx. 0.5 %  Static load balancing, approx. 1 %  Residual ripple peak-peak, max. 150 mV  Spikes peak-peak, max. (bandwidth: 20 MHz) 240 mV  Adjustment range 24 28 V  Product function Output voltage adjustable Yes  Output voltage setting via potentiometer; max. 480 W  Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"  No overshoot of Vout (soft start)  Startup delay, max. 1.5 s 30 ms  Voltage incess time of the output voltage maximum  Reted current value lout rated 20 A  Current range 0 20 A  • Note  • Note  • Note  10 short-tircuiting during the start-up typical 35 A  Duration of overloading capability for excess current  • on short-circuit during operation typical 35 A  Duratile of overloading capability for excess current  • on short-circuit during operation typical 35 A  Duratile of overloading capability for excess current  • on short-circuiting during the start-up 400 ms  • at short-circuit during operation typical 35 A  Duratile of overloading capability for excess current  • on short-circuiting during the start-up 400 ms  • at short-circuit during operation typical 35 A  Duration of overloading capability for excess current  • on short-circuiting during the start-up 400 ms  • at short-circuit during operation typical 35 A  Duration of overloading capability for excess current  • on short-circuiting during the start-up 400 ms  • at short-circuit during operation typical 35 A  Duration of overloading capability for excess current  • on short-circuiting for enhanced performance  Numbers of parallel switchable units for enhanced 2  Efficiency  Efficiency  Load step setting time 50 to 100%, typ. 2 ms  Load step setting time 50 to 100%, typ. 2 ms  Load step setting time 10 to 90%, typ. 2 ms	Output	
Total tolerance, static ± 3 % Static load balancing, approx. 0.5 % Static load balancing, approx. 1 % Residual ripple peak-peak, max. 150 mV Spikes peak-peak, max. (bandwidth: 20 MHz) 240 mV Adjustment range 2 4 28 V Product function Output voltage adjustable Yes Output voltage setting via potentiometer; max. 480 W Status display Green LED for 24 V OK Signaling No overshoot of Vout (soft start) Status display Green LED for 24 V OK Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" On/off behavior No overshoot of Vout (soft start) Startup delay, max. 1.5 s Voltage rise, typ. Voltage increase time of the output voltage maximum Rated current value lout rated 20 A Current range 0 20 A Current range 0 20 A Supplied active power typical 480 W Short-term overload current • on short-circuit during operation typical 35 A Short-term overload gapability for excess current • on short-circuit during apparation typical 100 ms • at short-circuit during operation typical 20 ms  Parallel switching for enhanced performance 100 ms  Parallel switching for enhanced performance 20 ms of parallel switchable units for enhanced performance 21 ms  Efficiency  Efficiency  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx. 47 W  Closed-loop control Dynamic manis compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ. 2 ms Load step setting time 100 to 50%, typ. 2 ms Load step setting time 100 to 50%, typ. 2 ms Load step setting time 100 to 50%, typ. 2 ms	Output	Controlled, isolated DC voltage
Static mains compensation, approx.  Static load balancing, approx.  Residual ripple peak-peak, max. Spikes peak-peak, max. (bandwith: 20 MHz)  Adjustment range  24 28 V  Product function Output voltage adjustable  Ves  Output voltage setting  Status display  Green LED for 24 V OK  Signaling  Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"  No overshoot of Vout (soft start)  Startup delay, max.  Voltage increase time of the output voltage maximum  Rated current value lout rated  Current range  Note  Note  Adjustment value lout rated  Current range  Note  Note  Adjustment value lout rated  Current range  Note  Note  Startup delay increase time of the output voltage maximum  Startup delay increase time of the output voltage maximum  Rated current value lout rated  Current range  Note  Note  Adjustment value lout rated  Current range  Note  Note  Adjustment value lout rated  O 20 A  Note  Supplied active power typical  Short-term overload current  on short-circuiting during the start-up typical  at short-circuit during operation typical  at short-circuit during operation typical  at short-circuit during operation typical  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Numbers of parallel switchable units for enhanced performance  Wes  Numbers of parallel switchable units for enhanced performance  Power loss at Vout rated, lout rated, approx.  7 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  2 ms  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Rated voltage Vout DC	24 V
Static load balancing, approx.  Residual ripple peak-peak, max.  Spikes peak-peak, max. (bandwidth: 20 MHz)  Adjustment range  Product function Output voltage adjustable  Ves  Product function Output voltage adjustable  Ves  Output voltage setting  Status display  Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"  Signaling  Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"  No overshoot of Vout (soft start)  Startup delay, max.  1.5 s  Voltage increase time of the output voltage maximum  Notlage increase time of the output voltage maximum  Rated current value lout rated  20 A  Current range  0 20 A  • Note  Supplied active power typical  Short-term overload current  • on short-circuit during operation typical  at short-circuiting during the start-up typical  • at short-circuit during operation typical  Duration of overloading capability for excess current  • on short-circuiting during the start-up  • at short-circuiting during peration  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency  Closed-loop control  Dynamic mains compensation (Vin rated, approx.  Power loss at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Power loss at So to 100%, typ.  Load step setting time 50 to 100%, typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Total tolerance, static ±	3 %
Residual ripple peak-peak, max.  Spikes peak peak, max. (bandwidth: 20 MHz)  Adjustment range  Output voltage setting  Ves  Output voltage setting  Via potentiometer; max. 480 W  Status display  Status display  Status display  Startup delay, max.  Voltage rise, typ.  Voltage irise,	Static mains compensation, approx.	0.5 %
Spikes peak-peak, max. (bandwidth: 20 MHz) Adjustment range 24 28 V Product function Output voltage adjustable Output voltage setting Status display Status display Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" No overshoot of Vout (soft start) Startup delay, max. 1.5 s Voltage increase time of the output voltage maximum Soo ms Rated current value lout rated 20 A Current range • Note • Note 24 A up to +45°C; +60 +70 °C: Derating 2%/K Supplied active power typical Short-term overload current • on short-circuiting during the start-up typical • at short-circuit during operation typical Duration of overloading capability for excess current • on short-circuiting during the start-up • at short-circuit during operation Parallel switching for enhanced performance Parallel switching for enhanced performance Pifficiency Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Sout rated, lout rated, approx. Power loss at Sout rated, lout rated, approx. Power loss at Sout rated, lout rated, approx. Power loss at Vout rated, lo	Static load balancing, approx.	1 %
Adjustment range 24 28 V Product function Output voltage adjustable Yes Output voltage setting via potentiometer; max. 480 W Status display Green LED for 24 V OK Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" On/off behavior No overshoot of Vout (soft start) Startup delay, max. 1.5 s Voltage rise, typ. Voltage increase time of the output voltage maximum Rated current value lout rated 20 A Current range 0 20 A Current range 40 Note 24 A up 0.45°C; +60 +70°C; Derating 2%/K Supplied active power typical 480 W Short-term overload current • on short-circuiting during the start-up typical 35 A • at short-circuit during operation typical 35 A Duration of overloading capability for excess current • on short-circuiting during the start-up • at short-circuit during operation 100 ms Parallel switching for enhanced performance Yes Numbers of parallel switchable units for enhanced performance  Efficiency Efficiency at Vout rated, lout rated, approx. 91 % Power loss at Vout rated, lout rated, approx. 91 % Power loss at Vout rated, lout rated, approx. 47 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ. 2 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Residual ripple peak-peak, max.	150 mV
Product function Output voltage adjustable Output voltage setting Via potentiometer; max. 480 W Status display Green LED for 24 V OK Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" On/off behavior No overshoot of Vout (soft start) Startup delay, max. 1.5 s Voltage rise, typ. 30 ms Voltage increase time of the output voltage maximum Stated current value lout rated 20 A Current range Note Note A up to +45°C; +60 +70 °C: Derating 2%/K Supplied active power typical Short-term overload current on short-circuiting during the start-up typical at short-circuit during operation typical Ouration of overloading capability for excess current on short-circuit during operation at short-circuit during operation Parallel switching for enhanced performance Numbers of parallel switchable units for enhanced performance  Efficiency Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx.  Power loss at Wout rated, lout rated, approx.  Power loss at Wout rated, lout rated, approx.  Power loss at Specific file of the specific control Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  2 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Output voltage setting  Via potentiometer; max. 480 W  Status display  Green LED for 24 V OK  Signaling  Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"  No overshoot of Vout (soft start)  Startup delay, max.  1.5 s  Voltage rise, typ.  30 ms  Voltage increase time of the output voltage maximum  Rated current value lout rated  20 A  Current range  • Note  Supplied active power typical  Short-term overload current  • on short-circuiting during the start-up typical  • at short-circuit during operation typical  at short-circuiting during the start-up  • on short-circuiting during the start-up  • at short-circuiting during the start-up  • at short-circuit during operation  Parallel switchable units for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency  Efficiency  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  The control of volosed to the volose the control volosed to the c	Adjustment range	24 28 V
Status display  Green LED for 24 V OK  Signaling  Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"  No overshoot of Vout (soft start)  Startup delay, max.  1.5 s  Voltage increase time of the output voltage maximum  Rated current value lout rated  20 A  Current range  • Note  Supplied active power typical  Short-term overload current  • on short-circuiting during the start-up typical  • at short-circuiting during the start-up  • on short-circuiting during the start-up  • on short-circuiting during the start-up  • at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated ±15 %), max.  Dynamic neals second in the start of th	Product function Output voltage adjustable	Yes
Signaling  On/off behavior  Startup delay, max.  Voltage rise, typ.  Voltage increase time of the output voltage maximum  Rated current value lout rated  Current range  Note  Note  Au p to +45°C; +60 +70 °C; Derating 2%/K  Supplied active power typical  Short-term overload current  on short-circuiting during the start-up typical  at short-circuit during operation typical  Duration of overloading capability for excess current  on short-circuit during operation  at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Output voltage setting	via potentiometer; max. 480 W
On/off behavior  Startup delay, max.  Voltage rise, typ.  Voltage increase time of the output voltage maximum  Rated current value lout rated  20 A  Current range  • Note  24 A up to +45°C; +60 +70 °C: Derating 2%/K  Supplied active power typical  Short-term overload current  • on short-circuiting during the start-up typical  • at short-circuit during operation typical  Duration of overloading capability for excess current  • on short-circuit during operation  • at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Fifficiency  Efficiency  Efficiency  Efficiency  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Status display	Green LED for 24 V OK
Startup delay, max.  Voltage rise, typ.  Voltage increase time of the output voltage maximum  Rated current value lout rated  20 A  Current range  • Note  Supplied active power typical  Short-term overload current  • on short-circuiting during the start-up typical  • at short-circuit during operation typical  Duration of overloading capability for excess current  • on short-circuit during operation  • at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
Voltage rise, typ.  Voltage increase time of the output voltage maximum  Rated current value lout rated  20 A  Current range  • Note  24 A up to +45°C; +60 +70 °C: Derating 2%/K  Supplied active power typical  Short-term overload current  • on short-circuiting during the start-up typical  • at short-circuit during operation typical  Duration of overloading capability for excess current  • on short-circuiting during the start-up  • at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	On/off behavior	No overshoot of Vout (soft start)
Voltage increase time of the output voltage maximum  Rated current value lout rated  20 A  Current range  • Note  10 20 A  24 A up to +45°C; +60 +70 °C: Derating 2%/K  Supplied active power typical  Short-term overload current  • on short-circuiting during the start-up typical  • at short-circuit during operation typical  Ouration of overloading capability for excess current  • on short-circuiting during the start-up  • at short-circuit during operation  • at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency  Efficiency  Closed-loop control  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Startup delay, max.	1.5 s
Rated current value lout rated  Current range  Note  Note  24 A up to +45°C; +60 +70 °C: Derating 2%/K  Supplied active power typical  Short-term overload current  on short-circuiting during the start-up typical  at short-circuit during operation typical  Touration of overloading capability for excess current  on short-circuiting during the start-up  at short-circuit during operation  Tou ms  at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Pefficiency  Efficiency  Efficiency  Efficiency  Efficiency  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Voltage rise, typ.	30 ms
O 20 A 24 A up to +45°C; +60 +70 °C: Derating 2%/K  Supplied active power typical  Short-term overload current  on short-circuiting during the start-up typical at short-circuit during operation typical  Duration of overloading capability for excess current on short-circuiting during the start-up at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Voltage increase time of the output voltage maximum	500 ms
Note     Supplied active power typical     Supplied active power typical     Short-term overload current	Rated current value lout rated	20 A
Supplied active power typical  Short-term overload current  on short-circuiting during the start-up typical at short-circuit during operation typical  Turation of overloading capability for excess current on short-circuit during operation at short-circuiting during the start-up at short-circuiting during the start-up at short-circuit during operation at short-circuit during ope	Current range	0 20 A
Short-term overload current  on short-circuiting during the start-up typical at short-circuit during operation typical  on short-circuit during operation typical  Duration of overloading capability for excess current on short-circuiting during the start-up at short-circuiting during the start-up at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	• Note	24 A up to +45°C; +60 +70 °C: Derating 2%/K
on short-circuiting during the start-up typical     at short-circuit during operation typical  Duration of overloading capability for excess current     on short-circuiting during the start-up     at short-circuit during operation Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Supplied active power typical	480 W
at short-circuit during operation typical  Duration of overloading capability for excess current  on short-circuiting during the start-up  at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Short-term overload current	
Duration of overloading capability for excess current  ● on short-circuiting during the start-up  • at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated ±15 %), max.  Dynamic mains compensation (Vin rated ±15 %), wax.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	• on short-circuiting during the start-up typical	35 A
on short-circuiting during the start-up     at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	<ul> <li>at short-circuit during operation typical</li> </ul>	35 A
• at short-circuit during operation  Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  47 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  2 ms  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Duration of overloading capability for excess current	
Parallel switching for enhanced performance  Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  47 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	on short-circuiting during the start-up	100 ms
Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency at Vout rated, lout rated, approx. 91 %  Power loss at Vout rated, lout rated, approx. 47 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ. 2 ms  Load step setting time 100 to 50%, typ. 2 ms  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	at short-circuit during operation	100 ms
Numbers of parallel switchable units for enhanced performance  Efficiency  Efficiency at Vout rated, lout rated, approx. 91 %  Power loss at Vout rated, lout rated, approx. 47 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ. 2 ms  Load step setting time 100 to 50%, typ. 2 ms  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	Parallel switching for enhanced performance	Yes
Efficiency  Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  47 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± 3 %  typ.	Numbers of parallel switchable units for enhanced	2
Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  47 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± 3 %  typ.	performance	
Efficiency at Vout rated, lout rated, approx.  Power loss at Vout rated, lout rated, approx.  47 W  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± 3 %  typ.	Efficiency	
Power loss at Vout rated, lout rated, approx.  Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± 3 % typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± 3 % typ.		91 %
Closed-loop control  Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± 3 % typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± 3 % typ.		
Dynamic mains compensation (Vin rated ±15 %), max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.		
max.  Dynamic load smoothing (lout: 50/100/50 %), Uout ± 3 % typ.  Load step setting time 50 to 100%, typ. 2 ms  Load step setting time 100 to 50%, typ. 2 ms  Dynamic load smoothing (lout: 10/90/10 %), Uout ± 3 % typ.	•	0.00
Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.		3 %
typ.  Load step setting time 50 to 100%, typ.  Load step setting time 100 to 50%, typ.  2 ms  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.		3 %
Load step setting time 100 to 50%, typ.  2 ms  Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ.	typ.	
Dynamic load smoothing (lout: 10/90/10 %), Uout ± 3 % typ.		2 ms
typ.		
Load step setting time 10 to 90%, typ. 2 ms		3 %
	Load step setting time 10 to 90%, typ.	2 ms

Load step setting time 90 to 10%, typ.	2 ms
Setting time maximum	10 ms
Protection and monitoring	
Output overvoltage protection	protection against overvoltage in case of internal fault Vout < 35 V
Current limitation, typ.	25.5 A
Property of the output Short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
Enduring short circuit current RMS value	
• maximum	7 A
Overcurrent overload capability in normal operation	overload capability 150 % lout rated up to 5 s/min
Safety	
Primary/secondary isolation	Yes
Galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16
Protection class	Class I
Leakage current	
• maximum	3.5 mA
● typical	1 mA
Degree of protection (EN 60529)	IP20
Approvals	
CE mark	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
Explosion protection	IECEx Ex nA nC IIC T4 Gc; ATEX (EX) II 3G Ex nAC IIC T4 Gc; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4
FM approval	-
CB approval	Yes
Marine approval	ABS, DNV GL
EMC	
Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2
environmental conditions	
Ambient temperature	
<ul><li>during operation</li></ul>	-25 +70 °C
— Note	with natural convection
<ul> <li>during transport</li> </ul>	-40 +85 °C
during storage	-40 +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation
Mechanics	

Connection technology	screw-type terminals
Connections	
• Supply input	L1, L2, L3, PE: 1 screw terminal each for 0.5 4 mm² single-core/finely stranded
<ul><li>Output</li></ul>	+, -: 2 screw terminals each for 0.2 4 mm²
<ul><li>Auxiliary</li></ul>	13, 14 (alarm signal): 1 screw terminal each for 0.05 2.5 mm²
Width of the enclosure	90 mm
Height of the enclosure	145 mm
Depth of the enclosure	150 mm
Required spacing	
<ul> <li>• top</li> </ul>	40 mm
• bottom	40 mm
• left	0 mm
• right	0 mm
Weight, approx.	1.6 kg
Product feature of the enclosure housing for side-by- side mounting	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15
Electrical accessories	Redundancy module, buffer module, selectivity module, DC UPS
Mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
MTBF at 40 °C	500 000 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)