Technical specifications

Order No.	6EP1 333-3BA00-8AC0	6EP1 333-3BA00
Technical specifications		
Product	SITOP modular plus	SITOP modular
Power supply, type	24 V/5 A	24 V/5 A
Input		
Input	1-phase and 2-phase AC	1-phase and 2-phase AC
Rated voltage value Vin rated min.		
Supply voltage		
1 at AC	120 V	120 V
2 at AC	230 V	230 V
Rated voltage value Vin rated max.		
Supply voltage		
1 at AC maximum nominal value	230 V	230 V
2 at AC maximum nominal value	500 V	500 V
1 at AC nominal value		
2 at AC nominal value		
at DC		
Note	Set by means of selector switch on the device; starting from Vin > 90/180 V	Set by means of selector switch on the device; starting from Vin > 90/180 V
Voltage range		
Input voltage		
1 at AC	85 ⋯ 264 V	85 ⋯ 264 V
2 at AC	176 ⋯ 550 V	176 ⋯ 550 V
at DC		
Overvoltage resistance	1300 Vpeak, 1.3 ms	1300 Vpeak, 1.3 ms
Mains buffering at Iout rated, min.	25 ms	25 ms
Mains buffering	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V	at Vin = 120/230 V, typ. 150 ms at Vin = 400 V
Rated line frequency		
1	50 Hz	50 Hz
2	60 Hz	60 Hz
Rated line range	47 ⋯ 63 Hz	47 ⋯ 63 Hz
Input current		
at nominal level of the input voltage 120 V nominal value	2.2 A	2.2 A
at nominal level of the input voltage 230 V nominal value	1.2 A	1.2 A

at nominal level of the input voltage 400 V nominal value		
at nominal level of the input voltage 500 V nominal value	0.61 A	0.61 A
at DC at nominal level of the input voltage 600 V nominal value		
Switch-on current limiting (+25 ° C), max.	35 A	35 A
I^2t, max.	1.7 A^2 • s	1.7 A^2 • s
Built-in incoming fuse	T 3.15 A (not accessible)	T 3.15 A (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A), characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V	Recommended miniature circuit breaker at 1-phase operation: from 6 A (10 A), characteristic C (B); required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2011-1EA10 (setting 3.8 A) or 3RV2711-1ED10 (UL 489) at 230 V; 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) at 400/500 V
Output		
Output	controlled, isolated DC voltage	controlled, isolated DC voltage
Rated voltage Vout DC	24 V	24 V
Total tolerance, static ±	3 %	3 %
Static mains compensation, approx.	0.1 %	0.1 %
Static load balancing, approx.	0.1 %	0.1 %
Residual ripple peak-peak, max.	50 mV	50 mV
Residual ripple peak-peak, typ.		
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV	200 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)		
Adjustment range	24 ⋯ 28.8 V	24 ⋯ 28.8 V
Product feature output voltage adjustable	Yes	Yes
Output voltage setting	via potentiometer	via potentiometer

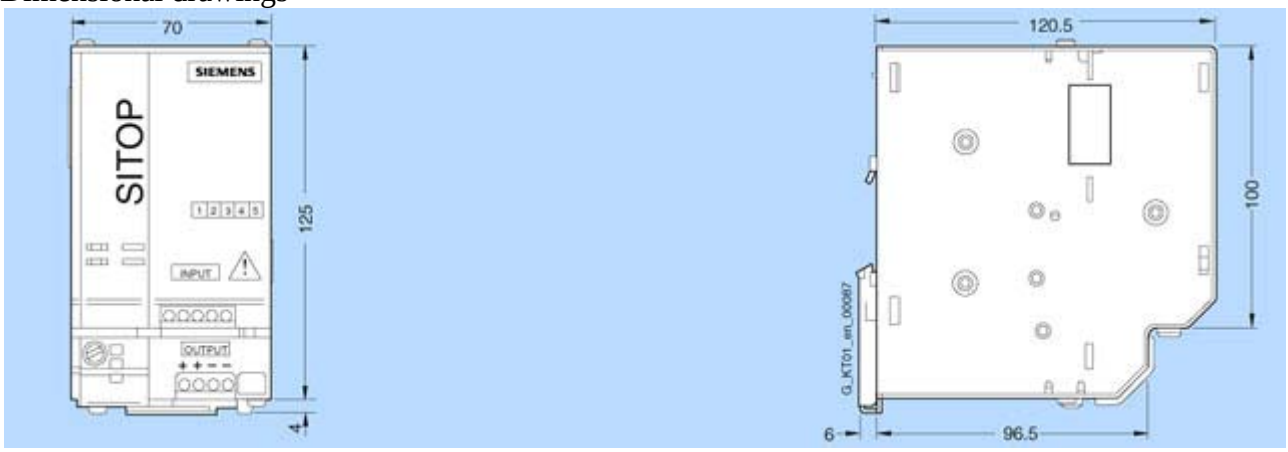
Note		
Status display	Green LED for 24 V OK	Green LED for 24 V OK
Signaling	via signaling module (6EP1961-3BA10)	via signaling module (6EP1961-3BA10)
On/off behavior	Overshoot of Vout approx. 3 %	Overshoot of Vout approx. 3 %
Startup delay, max.	1 s	1 s
Note		
Voltage rise, typ.	50 ms	50 ms
Voltage increase time of the output voltage maximum		
Rated current value Iout rated	5 A	5 A
Current range	0 ⋯ 5 A	0 ⋯ 5 A
Note	> 60 ° C Derating	> 60 ° C Derating
delivered active power typ.	120 W	120 W
short-term overload current at short-circuit during run-up typical		
Duration of overloading ability for excess current on short-circuiting during the start-up		
constant overload current at short-circuit during run-up typical	5.5 A	5.5 A
short-term overload current at short-circuit during operation typical	15 A	15 A
Duration of overloading ability for excess current on short-circuiting during the operational phase	25 ms	25 ms
constant overload current at short-circuit during operation typical		
Parallel switching for enhanced performance	Yes	Yes
Note	switchable characteristic	switchable characteristic
Numbers of parallel switchable units for enhanced performance	2	2
Efficiency		
Efficiency at Vout	87 %	87 %

rated, Iout rated, approx.		
Power loss at Vout rated, Iout rated, approx.	18 W	18 W
Closed-loop control		
Dynamic mains compensation (Vin rated ±15 %), max.	0.1 %	0.1 %
Dynamic load smoothing (Iout: 50/100/50 %), Uout ± typ.	3 %	3 %
Load step setting time 50 to 100%, typ.	2 ms	2 ms
Load step setting time 100 to 50%, typ.	2 ms	2 ms
Setting time maximum	5 ms	5 ms
Protection and monitoring		
Output overvoltage protection	< 35 V	< 35 V
Current limitation, typ.	5.5 A	5.5 A
Characteristic feature of the output short-circuit protected	Yes	Yes
Short-circuit protection	Alternatively, constant current characteristic approx. 5.5 A or latching shutdown	Alternatively, constant current characteristic approx. 5.5 A or latching shutdown
Enduring short circuit current Effective level typical	5.5 A	5.5 A
Note		
Overload/short-circuit indicator	LED yellow for "overload", LED red for "latching shutdown"	LED yellow for "overload", LED red for "latching shutdown"
Safety		
Primary/secondary isolation	Yes	Yes
Potential separation	Safety extra low output voltage Vout according to EN 60950-1 and EN 50178	Safety extra low output voltage Vout according to EN 60950-1 and EN 50178
Protection class	Class I	Class I
stray current		
maximum	3.5 mA	3.5 mA
typical	0.25 mA	0.25 mA
CE mark	Yes	Yes
UL/CSA approval	Yes	Yes

UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
Explosion protection	-	in preparation
FM approval	No	No
FM approval	-	-
CB approval	No	No
Marine approval	-	GL and ABS in process
Degree of protection (EN 60529)	IP20	IP20
EMC		
Emitted interference	EN 55022 Class B	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2
Operating data		
Ambient temperature		
in operation	-25 ⋯ +70 ° C	-25 ⋯ +70 ° C
Note	with natural convection	with natural convection
Ambient temparature		
on transport	-40 ⋯ +85 ° C	-40 ⋯ +85 ° C
Ambient temparature		
in storage	-40 ⋯ +85 ° C	-40 ⋯ +85 ° C
Humidity class according to EN 60721	Climate class 3K3, no condensation	Climate class 3K3, no condensation
Mechanics		
Connection technology	screw-type terminals	screw-type terminals
Connections		
Supply input	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded	L, N, PE: 1 screw terminal each for 0.2 ... 2.5 mm² single-core/finely stranded
Output	L+, M: 2 screw terminals each for 0.2 ... 2.5 mm²	L+, M: 2 screw terminals each for 0.2 ... 2.5 mm²
Auxiliary	-	-
Width of the housing	70 mm	70 mm
Height of the housing	125 mm	125 mm
Depth of the housing	125 mm	125 mm
Installation width	70 mm	70 mm
Installation height	225 mm	225 mm
Weight, approx.	1.2 kg	1.2 kg
Product feature of the housing housing for side-by-side mounting	Yes	Yes
Type of mounting wall mounting	No	No

Type of fixing cap rail mounting	Yes	Yes
Type of mounting S7-300 rail mounting	No	No
Installation	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15
Electrical accessories	Buffer module, signaling module	Buffer module, signaling module
Mechanical accessories		

Dimensional drawings



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