

1000 KLB 110 M 1000 W

$V_{IN\ Nom} = 110\ V_{DC}$

$V_{Out} = 1000\ V \quad C_{ON} = 5\ mF + 1\ mF$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
INPUT						
V_{IN}	Input voltage range	continuously	77.0		137.5	V_{DC}
$V_{IN\ dyn}$	Input voltage range dynamic	$V_{IN} = 66\ V \dots 77\ V$ for $t \leq 0.1\ s$ $V_{IN} = 137.5\ V \dots 154\ V$ for $t \leq 1\ s$	66.0 137.5		77.0 154.0	V_{DC} V_{DC}
$V_{IN\ min}$	Switch OFF		60		65	V_{DC}
$V_{IN\ max}$	Switch OFF		155		160	V_{DC}
I_E	Input current no load (C – charged)	$V_{IN} = 66\ V, \quad I_{Out} = 0\ A$ $V_{IN} = 110\ V,$ $V_{IN} = 154\ V,$		120 89 75		mA mA mA
	Einput Current Integral	$V_{IN} = 154\ V$			15	A^2s
$I_{E\ max}$	Max. input current during charging capacitor load	$V_{IN} = 66\ V, \quad I_{Out} \leq 2.1\ A$ $V_{IN} = 110\ V,$ $V_{IN} = 154\ V, \quad \text{for } t \leq 4\ s$			4.8 4.6 4.3	A A A
	Input fuse		10AT			
C_{IN}	Input capacitance			19		μF
	Max. allowed ext. line inductivity				100	μH
	Transient surge protection	Transil diode BZW50 -150	@ EN 50121 - 3 - 2			
	Reverse protection	none				

OUTPUT

$66\ V \leq V_{IN} \leq 154\ V$

P_{Out}	Peak output power		1000			W
$V_{Out\ Nom}$	Output voltage		+ 995	+ 1000	+ 1005	V_{DC}
ΔV_{Out}	Regulation accuracy static	$V_{Out} = 1000\ V, T_A = -40^\circ C \text{ to } +85^\circ C$	$\pm 3\ \% V_{Out\ Nom}$			V
$V_{Out\ rms}$	Output voltage ripple	Nominal load BW 300 kHz				mV_{SS}
t_{charge}	Charge time _C - Load Δt 50ms switch ON duration	$C_A = 0,5\ mF, T_U = -40^\circ C \dots +85^\circ C$			480	ms
t_{charge}	Charge time _C – Load Δt 50ms switch ON duration	$C_{AN} = 5\ mF$			5	s
	2 x overvoltage protection; Opto coupler direct at V_O and Aux_ V monitoring	$0\ A \leq I_{out} \leq 2.1\ A$	$1070\ V \leq V_{Aout} \leq 1100\ V$ Switch OFF, Switch OFF/ ON V_{IN}			
I_{Out}	Charge current, max. 5 x per 5s). Overload for max. t = 4s*) Current limitation **)		0.1 3.0	1 3.0	2.1 3.2	A A A
I_{sc}	Output short circuit current	Short circuit between + V_{Out} and – V_{Out} $66\ V \leq V_{IN} \leq 154\ V$			3.2	A
C_{Out}	Output capacity				1.5	μF

SIGNALING

	DISPLAY threshold controlled Position of LEDs see drawing	Input LED ON: $V_{IN} \geq 66V_{DC}$ Output LED ON: $V_{Out} \geq 995V_{DC}$	-	-		
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GENERAL DATA

f	Switching frequency	$V_{IN} = 110\ V, V_{Out} = 1000V$	80	90	100	kHz
η	Efficiency	$P_{Out} \geq 0.5 \times P_{ANenn}$	82	87		%
	MTBF (SN 29500)	$V_{IN} = 110\ V, V_{Out} = 1000V, T_{UA} = +40^\circ C$		500 000		h
	No load -, short circuit proofed		Dauer			
	Paralleling outputs	no				

CONTROL UNIT INPUT & OUTPUT

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DC/DC Capacitor Charging unit

1000 W

1000 KLB 110 M 1000 W

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SAFETY / DIMENSIONS

	Creepage & Clearance distance @ PD2, OV3, PCB FR4, V0, TG = + 140°C 2 Layers	Input Output Output Chassis Input Chassis	6.0 6.0 2.0			mm mm mm
	Isolation unit test: ramp function 3 s – 2 s – 3 s Type Test: 1Min.	Input Output Output Chassis Input Chassis			4'600 4'600 2'100	V _{DC} V _{DC} V _{DC}
	Connecting (please specify separate with order) Necessary counter connector: Federleiste (please specify separate with order)	Input X1: socket board Phoenix Counter connector: sleeve output X2: sleeve Phoenix Counter connector: Stift SE: M5 Screws	TMSB 2,5/3-GF-7,62 GMSTB 2,5/3 – STF – 7,62 IPC 16/3 – GF – 10,16 ISPC 16/3 – STF – 10,16 Mounting at chassis			
	Pin assignment see Table					
	Protection class, - degree, varnish PCB	Peters SL 1309 N - FLZ	I, IP 20			
	Dimensions	H x B x T	270 x 210 x 60			mm
	Mounting		Wall mounting			
	Weight			4.0		kg

AMBIENT CONDITIONS

T _A	Operating temperature range	continuously	- 40		+ 85	°C
T _{Lager}	Storage temperature range		- 40		+ 85	°C
	Cooling		Free convection			
	Humidity	EN 50155, IEC 60571	75% averaged per year, 95% 30 days			
	Vibration / Shock	IEC 61373, IEC 68-2-27 Kat. I 3 Shocks each axis	50 m / s ² , 30 ms			

EMC

	Radiation *)	Line conducted & radiated emission	EN 61000 – 6 – 4 A			
	immunity *)	ESD EN 61000 - 4 - 2	6 kV / 8 kV Performance criteria – B -			
		HF Field EN 61000 - 4 - 3	20 V / m 80 MHz ... 1 GHz Performance criteria – A -			**)
		Burst EN 61000 - 4 - 4	Level 4 asym., sym. Performance criteria – A -			
		Surge EN 61000 - 4 - 5	2 kV asym. / 1 kV sym. Performance criteria – B -			
		HF – current injection EN 61000 - 4 - 6	10 V _{eff} , R _i = 150 Ω Performance criteria – A -			

STANDARDS

Applied Standards:	EN 50155: 2008	IEC 60571 : 2006	EN 50124 - 1: 2006	EN 50121 - 3 - 2: 2007	EN 60529
	EN 50207: 2000	EN 50 121 - 1	EN 50125 - 1	EN 60068 - 2 - 6, 2...27	EN 61000 - 4 - 2...6
	IEC 61373: 1999	EN 60721 - 3 - 5	VDE 115 / T. 106		

Technical data referenced at: - 40° C ≤ T_A ≤ + 70° C, 77 V_{DC} ≤ V_{IN} ≤ 137,5 V_{DC}, if not otherwise specified.

*) inside closed housing **) HF Feld: 80MHz – 1GHz 20V/m, 1400 MHz – 2100MHz 10V/m 2100MHz – 2500MHz 5V/m

Pin Assignment		Cabling AWG
INPUT X1		
Pin 1 (X1:1)	+ V _{IN}	1.5 mm ²
Pin 2 (X1:2)	SE	1.5 mm ²
Pin 3 (X1:3)	- V _{IN}	1.5 mm ²
OUTPUT X2		
Pin 1 (X2:1)	- V _{Out}	2.5 mm ²
Pin 2 (X2:2)	n.c.	2.5 mm ²
Pin 3 (X2:3)	+ V _{Out}	2.5 mm ²