

50 WBB 110 M24 W □ □

$V_{I\text{ nom}} = 72\text{ V}, 110\text{ V}$ $V_{O\text{ nom}} = 24\text{ V}$ $I_{O\text{ nom}} = 4.1\text{ A}$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
INPUT:						
V_{IN}	Input voltage range	Continuously	77.0		137.5	V_{DC}
$V_{IN\text{ Dyn}}$	Input voltage range dynamic	$V_{IN} = 66.0\text{ V} \dots 77.0\text{ V}$ for $t \leq 0.1\text{ s}$ $V_{IN} = 137.5\text{ V} \dots 154.0\text{ V}$ for $t \leq 1\text{ s}$	66.0		154.0	V_{DC}
$V_{IN\text{ Min}}$	Converter shutdown		39.0		43.0	V_{DC}
$V_{IN\text{ Max}}$	Converter shutdown		155.0		158.0	V_{DC}
I_{IN}	Input current no load	$V_{IN} = 154.0\text{ V}, I_{OUT} = 0\text{ A}$		1.1	70	mA
	Nominal load	$V_{IN} = 110.0\text{ V}, I_{OUT} = 4.1\text{ A}$			2.1	A
	Nominal load	$V_{IN} = 66.0\text{ V}, I_{OUT} = 4.1\text{ A}$				A
	Input current integral	$V_{IN} = 154.0\text{ V}$			5	A^2s
$I_{IN\text{ Max}}$	Switch on current $t \leq 200\text{ms}$ $V_{IN} \geq V_{IN\text{ min}}$	$I_{OUT} = 2.1\text{ A}$ $\Delta t \leq 200\text{ ms}$			6	A
	Inrush current = f(R-, L - line)	Value on request				
	Input Fuse		10 A Pico Fuse			
C_{IN}	Converter input capacitance			20	25	μF
	External Line Inductance				10	μH
	Reverse input protection	parallel diode + input fuse	1.5KE160A			

OUTPUT: Power Unit		$66.0\text{ V} \leq V_{IN} \leq 154.0\text{ V}$				
$P_{OUT\text{ Nom}}$	Output power			50		W
$V_{OUT\text{ Nom}}$	Output voltage adjustment, factory set		+ 23.9	+ 24.0	+ 24.2	V_{DC}
ΔV_{OUT}	Load regulation static	$0\text{ A} \leq I_{OUT} \leq 4.1\text{ A}$ $T_A = -40^\circ\text{C} \dots +70^\circ\text{C}$	$\pm 2.5\% V_{OUT\text{ nom}}$			V
$\Delta V_{O\text{ dyn}}$	Load regulation dynamic	Pulse load: $20 - 80 - 20\% \times I_{OUT}$			± 250	mV
t_{dyn}	Response time	Pulse load: $20 - 80 - 20\% \times I_{OUT}$		1	2	ms
$V_{O\text{ rms}}$	Ripple	Nominal load BW 300 kHz		100	200	mV
$V_{O\text{ pp}}$	Noise	Nominal load BW 20 MHz			250	mV
t_{on}	Turn on time V_o	$0\text{ A} \leq I_{OUT} \leq 4.1\text{ A}$ resistive load	25		200	ms
t_h	Hold Up Time Class S2 EN 50155 Recharge time $t \leq 5\text{sec}$ @ $I_{OUT} \geq 0.5\text{A}$	$0\text{ A} \leq I_{OUT} \leq 4.1\text{ A}$	10			ms
	Overvoltage Protection	$0\text{ A} \leq I_{OUT} \leq 4.1\text{ A}$			32.0	V
I_{OUT}	Output current			4.1		A
	Output current limitation		4.2			A
I_{AK}	Output short circuit current	short circuit between + V_o and - V_o $66.0\text{ V} \leq V_{IN} \leq 154.0\text{ V}$			7.5	A
	Sense Lines	no				
C_o	Converter Capacitance	Output		8		mF

Signals

	Signals	Input Output	LED yellow LED yellow	
--	---------	-----------------	--------------------------	--

GENERAL SPECIFICATIONS

f	Switching frequency	$V_{IN} = 110\text{ V}, I_{OUT} = 4.1\text{ A}$		80		kHz
η	Efficiency	$P_{OUT} \geq 0.7 \times P_{OUT\text{ Nom}}$	86	90		%
	MTBF (SN 29500)	$V_{IN} = 110\text{ V}, I_{OUT} = 4.1\text{ A}, T_A = +40^\circ\text{C}$		500 000		h
	No load, short circuit proof		Continuously			

100 WBB 110 M24 W □ □

SYMBOL PARAMETER TEST CONDITIONS MIN TYP MAX UNIT

SAFETY / DIMENSIONS

	Creepage, Clearance PD2, OV 2 PCB FR4, V0, T _G = + 140°C	Input – Output Input – Case Output – Case	2.0 2.0 1.0			mm mm mm
	Converter Dielectric Strength Test each unit ramp function 2 s – 3 s – 2 s Type test: 1 minute	Input – Output Input – Case Output – Case			2'100 2'100 750	V _{DC} V _{DC} V _{DC}
	Connector	Input, Output, SE: Combicon 5-pins Required femal plug:	DFK-MSTBA 2.5/5-GF-5.08 MSTB 2.5 HC/5-STF-5.08			
	Pin Assignment		see drawing			
	Protection Class, Protection degree		I, IP 20			
	Dimensions see drawing	w x h x d	110 x 170 x 52			mm
	Assembling	Wall mounting with screws	4 x M4			
	Weight			750		g

ENVIRONMENTAL CONDITIONS

T _A	Operating temperature range	Continuously class T3EN 50155	- 40		+ 70	°C
T _{Sto}	Storage temperature range		- 40		+ 85	°C
	Cooling		convection			
	Humidity	EN 50155, IEC 60571	75% averaged year, 95% 30 days			
	Vibration / Shock	IEC 61373, IEC 68-2-27, EN 50155 Cat. I 3 shocks each Axis	50 m / s ² , 30 ms			

EMV

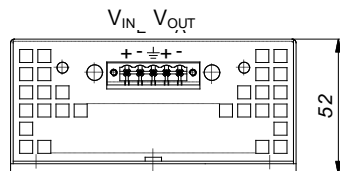
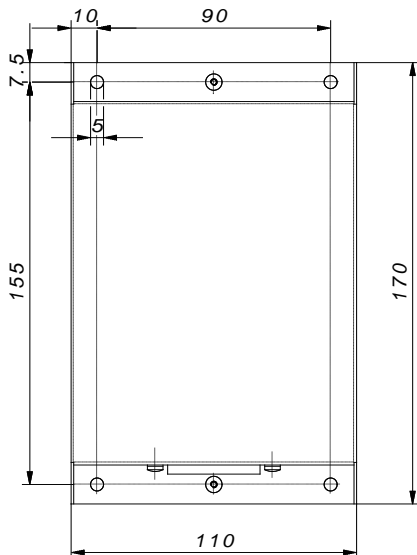
	Emission	Line conducted and radiated	EN 50121 - 3 - 2: 2007			
	Immunity	ESD EN 61000 - 4 - 2	6 kV / 8 kV performance criteria - B -			
		High Frequency Field *) EN 61000 - 4 - 3	20 V / m 80 MHz ... 1.0 GHz performance criteria - A -			*)
		Burst EN 61000 - 4 - 4	Level 3 asym., sym. performance criteria - A -			
		Surge EN 61000 - 4 - 5	2 kV asym. / 1 kV sym. R _i = 42 Ω, perf. criteria - A -			
		HF – Current Injection EN 61000 - 4 - 6	10 V _{eff} , R _i = 150 Ω performance criteria - A -			

STANDARDS

Applied Standards:	EN 50155: 2007	BN 411 002	EN 50124 - 1: 2006	EN 50121 - 3 - 2: 2007	IEC 60571
	SN 29 500	EN 50 121 - 1	EN 50125 - 1	EN 60068 - 2 - 6, 2...27	EN 61000 - 4 - 2...6
	IEC 571	IEC 61373	EN 60721 - 3 - 5	EN 61373	EN 60529

Technical specifications valid for: - 40° C ≤ T_A ≤ + 70° C, 77.0 V ≤ V_{IN} ≤ 137.5 V, unless otherwise noted. *)1400MHz – 2100MHz 10V/m
2100MHz – 2500MHz 5V/m

Dimensions (in mm) and pin assignment



View in direction of the arrow

Function	Wire gauge **
+ V _{IN}	≥ 2.5 mm ²
- V _{IN}	≥ 2.5 mm ²
PE	2.5 mm ²
+ V _{OUT}	≥ 1.5 mm ²
- V _{OUT}	≥ 1.5 mm ²

Order Information

Index W	Description
W00	0ms, no ext. connector
W01	10ms, no ext. Connector
W10	0ms with ext. Connector
W11	10ms, with ext. connector