

50 WBB 110 M24 W00

$V_{I\ nom} = 72\ V, 110\ V$ $V_{O\ nom} = 24\ V$ $I_{O\ nom} = 2.1\ A$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
INPUT:						
V_{IN}	Input voltage range	Continuously	50.4		137.5	V_{DC}
$V_{IN\ Dyn}$	Input voltage range dynamic	$V_{IN} = 43.2\ V \dots 50.4\ V$ for $t \leq 0.1\ s$ $V_{IN} = 137.5\ V \dots 154.0\ V$ for $t \leq 1\ s$	43.2		154.0	V_{DC}
$V_{IN\ Min}$	Converter shutdown		40		43	V_{DC}
$V_{IN\ Max}$	Converter shutdown		155		160	V_{DC}
I_{IN}	Input current no load Nominal load Nominal load	$V_{IN} = 154\ V, I_{OUT} = 0\ A$			70	mA
		$V_{IN} = 110\ V, I_{OUT} = 2.1\ A$		0.6		A
		$V_{IN} = 72\ V, I_{OUT} = 2.1\ A$		0.9		A
		$V_{IN} = 43.2\ V, I_{OUT} = 2.1\ A$			1.5	A
	Input current integral	$V_{IN} = 154\ V$			5	A^2s
$I_{IN\ Max}$	Switch on current at $V_{in} \geq V_{in\ min}$	$I_{OUT} = 2.1\ A$ $\Delta t \leq 200\ ms$			6	A
	Input Fuse		10 A Pico Fuse			
C_{IN}	Converter input capacitance			20	25	μF
	Max. permitted external Line Inductance				25	μH
	Reverse input protection	parallel diode + input fuse	1.5KE160A			

OUTPUT: Power Unit

$50.4\ V \leq V_{IN} \leq 137.5\ V$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
$P_{OUT\ Nom}$	Output power			50		W
$V_{OUT\ Nom}$	Output voltage adjustment, factory set		+ 23.9	+ 24.0	+ 24.2	V_{DC}
ΔV_{OUT}	Load regulation static	$0\ A \leq I_{OUT} \leq 2.1\ A$ $T_A = -40^\circ C \dots +70^\circ C$ $T_A = -40^\circ C \dots +85^\circ C$ for $t \leq 10\ min.$	$\pm 2.5\ \% V_{out\ nom.}$ $\pm 3.0\ \% V_{out\ nom.}$			
$\Delta V_{O\ dyn.}$	Load regulation dynamic	Pulse load: 20 - 80 - 20 % x I_{OUT}		125	250	mV
t_{dyn}	Response time	Pulse load: 20 - 80 - 20 % x I_{OUT}		1	2	ms
$V_{O\ rms}$	Ripple	$43.2\ V \leq V_{IN} \leq 154.0\ V$ Nominal load BW 300 kHz		100	200	mV
$V_{O\ pp}$	Noise	$43.2\ V \leq V_{IN} \leq 154.0\ V$ Nominal load BW 20 MHz			250	mV
t_{on}	Turn on time V_o	$50.4\ V \leq V_{IN} \leq 137.5\ V, 0\ A \leq I_{OUT} \leq 2.1\ A$ resistive load	25		200	ms
t_h	Option: Hold Up Time Class S2 EN 50155 Recharge time: $t \leq 5\ sec. @ I_{out} \geq 1\ A$	$0\ A \leq I_{OUT} \leq 2.1\ A$	10			ms
	Overvoltage Protection	$43.2\ V \leq V_{IN} \leq 154.0\ V$ $0\ A \leq I_{OUT} \leq 2.1\ A$	Transil Diode 1,5KE27A			
I_{OUT}	Output current			2.1		A
	Output current limitation		2.2			A
I_{AK}	Output short circuit current	short circuit between + V_o and - V_o $43.2\ V \leq V_{IN} \leq 154.0\ V$			4.2	A
	Sense Lines	no				
C_o	Converter Capacitance	Output		8		mF

Signals

Signals	Input	Output
		LED yellow
		LED yellow

GENERAL SPECIFICATIONS

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
f	Switching frequency	$V_{IN} = 110\ V, I_{OUT} = 2.1\ A$		80		kHz
η	Efficiency	$P_{OUT} \geq 0.7 \times P_{OUT\ Nom}$	86	88		%
	MTBF (SN 29500)	$V_{IN} = 110\ V, I_{OUT} = 2.1\ A, T_A = +40^\circ C$		500 000		h
	No load, short circuit proof		Continuously			

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	Input – Output Input – Case Output – Case			2100 2100 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			650		g

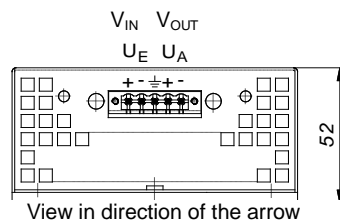
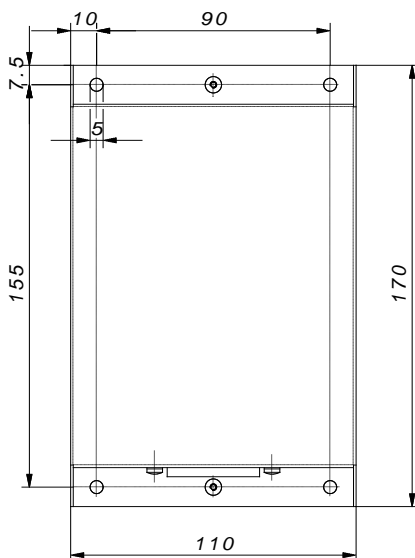
ENVIRONMENTAL CONDITIONS						
T _A	Operating Range	Continuously EN 50155 class Tx for 10 Min.	- 40 - 40		+ 70 + 85	°C °C
T _{Sto}	Storage Range		- 40		+ 85	°C
	Cooling		convection			
	Humidity	EN 50155, IEC 60571	75% averaged year, 95% 30 days			
	Vibration / Shock	IEC 61373, IEC 68-2-27, EN 50155 Cat. I 3 shocks each Axis	50 m / s ² , 30 ms			

EMV			
	Emission	Line conducted and radiated	EN 50121 - 3 - 2: 2006
	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 ... 2.5 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: 2008	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, 50.4 V ≤ V_{IN} ≤ 137.5 V, unless otherwise noted. *)1400MHz – 2100MHz 10V/m
2100MHz – 2500MHz 5V/m

Dimensions (in mm) and pin assignment



Order Key

W00	class S1 0ms
W01	class S2 10ms
W10	with mating connector, class S1
W11	with mating connector, classe S2