

250 DDB 110 M24 □ □ □

$V_{In\ nom} = 72\ V, 110\ V$ $V_{Out\ nom} = 24\ V$ $I_{O\ nom} = 10.5\ A$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
INPUT						
V_{IN}	Input voltage range	Continuously	50.4		137.5	V
	Input voltage range dynamic	$V_{IN} = 43.2\ V \dots 50.4\ V$ for $t \leq 0.1\ s$ $V_{IN} = 137.5\ V \dots 154\ V$ for $t \leq 1\ s$	43.2		154	V
$V_{IN\ min}$	Switch Off				43	V
$V_{IN\ max}$	Switch Off		156		160	V
V_{Enable}	Enable Function Reference potential: $-V_{IN}$	converter On: Enable = low $V_{Enable} \leq 0.8\ V, I \leq 1.5\ mA$ converter Off: Enable = high $V_{Enable} \geq 3.0\ V, I \leq -50\ \mu A^*$	0		0,8	V
	Stand by Current	$43.2\ V \leq V_{IN} \leq 154\ V, Enable = high$	18		25	mA
I_{IN}	Input current	no load $V_{IN} = 154\ V, I_{Out} = 0\ A$ nominal load $V_{IN} = 110\ V, I_{Out} = 10.5\ A$ nominal load $V_{IN} = 43.2\ V, I_{Out} = 10.5\ A$		4.0	100	mA A A
	Switch On input current integral	$V_{IN} = 154\ V$			15	A ² s
$I_{IN\ max}$	Switch on current at $V_{IN} \geq V_{IN\ min}, (V_{Enable} \rightarrow \leq 0.8\ V)$	$I_{Out} = 10.5\ A$ $\Delta t \leq 100\ ms$			15	A
	Input fusing		15 A			
C_{IN}	Input capacity converter		30			μF
	External connection inductance		50			μH
	Reversal protection	Parallel diode + fuse	1.5KE160A			

OUTPUT: Power Unit

$P_{Out\ Nom}$	Output power	$43.2 \leq V_{IN} \leq 154\ V$		250		W
$V_{Out\ Nom}$	Output voltage adjustment, factory set	$50.4\ V \leq V_{IN} \leq 137.5\ V$	23.9	24.0	24.2	V
ΔV_{Out}	Load regulation static	$43.2\ V \leq V_{IN} \leq 154\ V$ $0\ A \leq I_{Out} \leq 10.5\ A$ $T_A = -40^\circ C \dots +70^\circ C$ $T_A = -40^\circ C \dots +85^\circ C$	$\leq 2.5\ \% V_{Out\ Nom}$ $\leq 3\ \% V_{Out\ Nom}$			V
$\Delta V_{Out\ dyn.}$	Load regulation dynamic	$43.2\ V \leq V_{IN} \leq 154\ V$ Puls load: 20 - 80 - 20 % x $I_{Out\ Nom}$			500	mV
t_{dyn}	Response time	$43.2\ V \leq V_{IN} \leq 154\ V$ Puls load: 20 - 80 - 20 % x $I_{A\ Nenn}$		1	2	ms
$V_{out\ rms}$	Ripple	$43.2\ V \leq V_{IN} \leq 154\ V$ Nominal load BW 300 kHz		150	300	mV
$V_{out\ ss}$	Spikes	$43.2\ V \leq V_{IN} \leq 154\ V$ Nominal load BW 20 MHz			350	mV
t_{on}	Turn on time: V_{Out}	$50.4\ V \leq V_{IN} \leq 154\ V, 0A \leq I_{Out} \leq 10.5\ A$ resistive load			200	ms
$t_{storage}$	Option: Hold up time	$50.4\ V \leq V_{IN} \leq 137.5\ V$ $0\ A \leq I_{Out} \leq 10.5\ A$ Classe S2 @ EN 50155	10			ms
	Overvoltage Protection	$43.2\ V \leq V_{IN} \leq 154\ V$ $0\ A \leq I_{Out} \leq 10.5\ A$	converter off: $V_{Out} \leq 32.4\ V$			V
I_{Out}	Output current	$43.2\ V \leq V_{IN} \leq 154\ V$		10.5		A
	Output current limit of I_{Out}	$43.2\ V \leq V_{IN} \leq 154\ V$	11			A
I_{AK}	Output short circuit current	Short circuit between + V_{Out} and - V_{Out} $43.2\ V \leq V_{IN} \leq 154\ V$			16	A
C_{Out}	Output capacity converter			14		mF

OUTPUT: Signaling

PF	Power Fail Open Collector Transistor $V_{CEmax} \leq 70\ V, I_{CEmax} \leq -20mA^*$ Reference potential: $-V_{Out}$	Transistor On: PF= low, $V_{Out} < V_{out\ min}$ Transistor Off: PF= high, $V_{Out} \geq V_{out\ min}$	$V_{Out} < 0.95 \times V_{Out\ Nom} \pm 2\ \%$ $V_{Out} \geq 0.95 \times V_{Out\ Nom} \pm 2\ \%$			V
	Signals	input: output:	LED yellow LED yellow			

Common DATAS

f	Switching frequency	$V_{IN} = 110\ V, I_{Out} = 10.5\ A$		75		kHz
η	Efficiency	$P_{Out} \geq 0.7 \times P_{Out\ nom}$	87	91		%
	MTBF (SN 29500)	$V_{IN} = 110\ V, I_{Out} = 10.5\ A, T_A = +40^\circ C$		400 000		h
	No load-, short circuit proofed		Continuously			

* - sign: sink current

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SYMBOL PARAMETER TEST CONDITIONS MIN TYP MAX UNITS

SAFETY / DIMENSIONS

	Creepage / Clearance PCB FR4, V0	Input – Output Input – Case Output – Case	6.0 4.0 2.0			mm mm mm
	Converter Dielectric Strength Test each unit Ramp function 2 s - 3 s - 2 s	Input – Output Input – Case Output – Case			2100 1500 750	V _{DC} V _{DC} V _{DC}
	Connectors	Input , Output, SE: 5 pins Required femal plug Enable Signal, Power Fail each 2 pins Required femal plug	Combicon PC 6-16/5-G1F-10,16 Combicon PC 6/5-STF-10,16 Combicon MC1,5/2-GF-3,81 Combicon MC 1,5/2-STF-3,81			
	Protection class, protection degree		I, IP 20			
	Dimensions incl. mounting plate <i>see drawing</i>	w x h x d Chassis mounting or Din rail monting TS35	210 x 160 x 81.5			mm
	Assembling	Chassis mounting with screws or Din rail monting TS35	4 x M5			
	Weight			2.2		kg

ENVIRONMENTAL CONDITIONS

T _A	Operating temperature range T _A	Continuously EN 50155 Classe Tx for 10 min.	- 40 - 40		+ 70 + 85	°C °C
T _{Sto}	Storage temperature range		- 40		+ 85	°C
	Cooling		Free air convection			
	Humidity	EN 50155, IEC 60571	75% averaged year, 95% 30 days			
	Vibration / Shock valid only for chassis mounting	IEC 61373, IEC 68-2-27, BN 411002 Cat. I 3 Schocks each Axis	50 m / s ² , 30 ms			

EMV

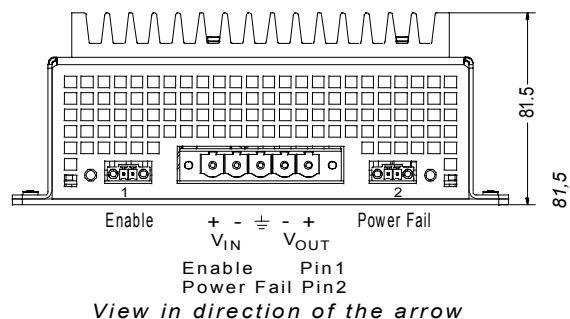
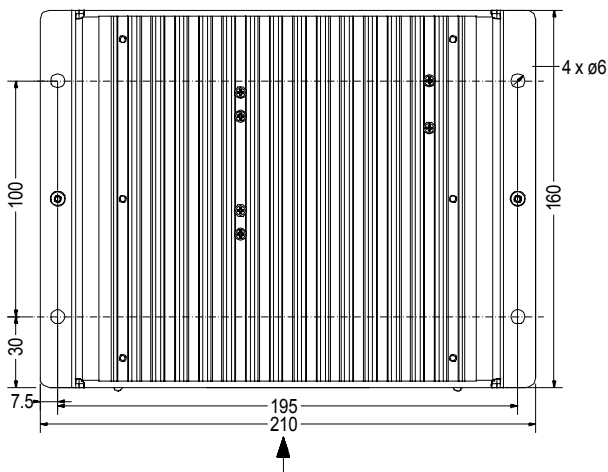
	Emission	Line conducted and radiated	EN 50121 - 3 - 2: 2001
	Immunity	ESD EN 61000 - 4 - 2 High Frequency Field EN 61000 - 4 - 3 Burst EN 61000 - 4 - 4 Surge EN 61000 - 4 - 5 HF – Current Injection EN 61000 - 4 - 6	6 kV / 8 kV performance criteria - B - 20 V / m 80 MHz ... 1 GHz performance criteria - A - Level 3 asym., sym. performance criteria - A - 2 kV asym. / 1 kV sym. R _i = 42 Ω, perf. criteria - A - 10 V _{eff} , R _i = 150 Ω performance criteria - A -

STANDARDS

Applied standards:	EN 50155: 2004 SN 29500 IEC 571	BN 411 002 prEN 50121 - 1 IEC 61373: 1999	EN 50124 - 1: 1996 prEN 50125 - 1 EN 60721 - 3 - 5	EN 50121 - 3 - 2: 2006 EN 60068 - 2 - 6, 2...27 EN 61373 : 1999	IEC 60571 EN 61000 - 4 - 2...6 EN 60529
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Technical specifications vaild for: - 40° C ≤ T_A ≤ + 70° C, 50.4 V ≤ V_{IN} ≤ 137.5 V, unless otherwise noted.

Dimensions (in mm) and pin assignment



Order Code:

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- 0 = without femal plugs
- 1 = with femal plugs
- 0 = without Hold up time
- 1 = with Hold up time 10 ms
- H = Din rail mounting TS35
- W = Chassis mounting

Keep free space over and under the unit: ≥ 100 mm.

Attention: Take care to a close thermal connection between mounting plate and case.