



Converter with single stage AC to DC conversion and PFC  
No electrical isolation input to output  
Input voltage range 85(95) - 255 V AC



- Extremely slim case (4TE), fully enclosed
- Single outputs for 72 and 85 VDC loads
- Ideal to supply isolated P series DC-DC converters
- Operating ambient temperature range -40 to 71 °C with convection cooling

### Model Selection

Output 1		Input voltage $V_i$ [V AC]	Rated power $P_o$ max [W]	Efficiency $\eta$ [%]	Type	Options
$V_o$ nom [VDC]	$I_o$ nom [A]					
72	2.7	85 - 255	190	94	LPC 1901-7D	-9
85	2.7	95 - 255	230	94	LPC 1902-7D	-9

Model numbers highlighted in yellow or shaded are not recommended for new designs.

### Input

Input voltage	continuous range	85(95) - 255 V AC
Input frequency		47 - 63 Hz
Inrush current	extremely low input capacitance of 1.25 $\mu$ F	negligible

### Output

Efficiency	$V_i$ nom, $I_o$ nom	94%
Output voltage setting accuracy	$V_i$ nom, $I_o$ nom	$\pm 2$ V $V_o$ nom
Output voltage noise	IEC/EN 61204, low frequency	typ. 5 V <sub>pp</sub>
	IEC/EN 61204, switching frequency	typ. 25 mV <sub>pp</sub>
Line regulation	$V_i$ min - $V_i$ max, $I_o$ nom	typ. $\pm 1$ V
Load regulation	$V_i$ nom, 10 - 100% $I_o$ nom	typ. 250 mV
	$V_i$ nom, 0 - 10% $I_o$ nom	typ. 700 mV
Minimum output current	not required	0 A
Power limitation	approx. 1 s, restart after 3 s	typ. 240 W
Current limitation	approx. 1 s, restart after 3 s	typ. 200% $I_o$ nom
Operation in parallel	by load regulation	up to 5 units
Hold-up time	$V_o = 72 - 66$ VDC, $P_o = 190$ W	typ. 4.3 ms
	$V_o = 85 - 40$ VDC, $P_o = 230$ W	typ. 24 ms

### Protection

Input undervoltage lockout		typ. 68 V AC
Input overvoltage lockout		typ. 306 V AC
Input transient protection	two varistors	
Output	no-load, overload and short circuit proof	
Output overvoltage	suppressor diode in each output	typ. 150% $V_{o\ nom}$
Overtemperature	switch-off with auto restart	$T_C$ typ. 110°C

### Control

Status indication	LED: OK	
Isolated open collector signal	In OK/Out OK	feature D

### Safety

Approvals	EN 60950, UL 1950, CSA C22.2 No. 950	
Class of equipment		class I
Protection degree		IP 40
Electric strength test voltage	I/case and O/case	1.5 kV AC

### EMC

Electrostatic discharge	IEC/EN 61000-4-2, contact/air, level 2/3 (4/8 kV)	criterion B
Electromagnetic field	IEC/EN 61000-4-3, level 2 (3 V/m)	criterion A
Electr. fast transients/bursts	IEC/EN 61000-4-4, level 3 (2 kV)	criterion B
Surge	IEC/EN 61000-4-5, input, level 2/3 (1/2 kV)	criterion B
Conducted disturbances	IEC/EN 61000-4-6, level 2 (3 V)	criterion A
Electromagnetic emissions	CISPR 22/EN 55022, conducted	class B
	CISPR 14/EN 55014, radiated	below limit

### Environmental

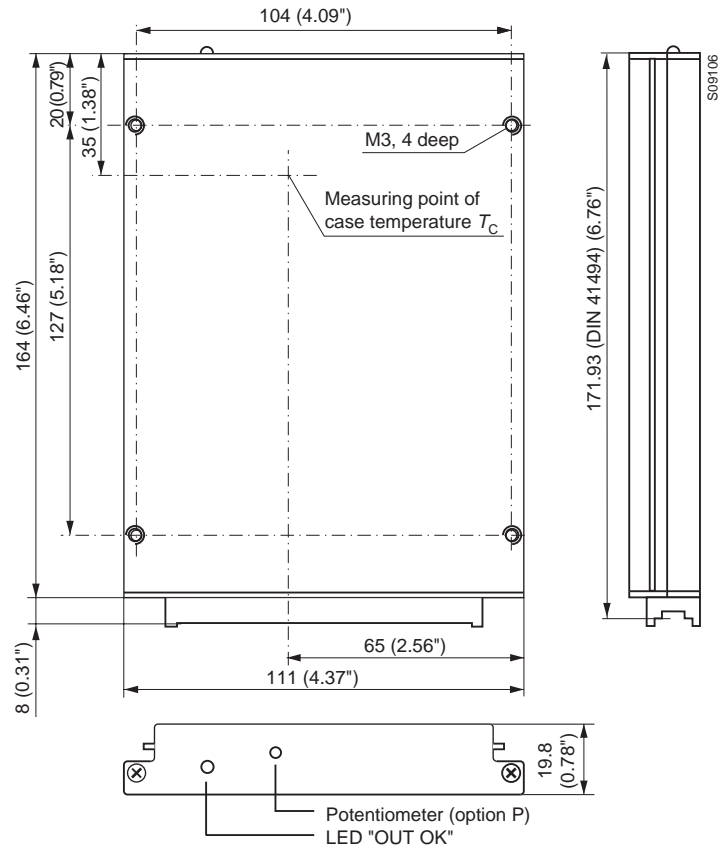
Operating ambient temperature	$V_{i\ nom}, I_{o\ nom}$ , convection cooled	-25 to 71°C
Operating case temperature $T_C$	$V_{i\ nom}, I_{o\ nom}$	-25 to 95°C
Storage temperature	non operational	-40 to 100°C
Damp heat	IEC/EN 60068-2-3, 93%, 40°C	56 days
Vibration, sinusoidal	IEC/EN 60068-2-6, 10 - 60/60 - 150 Hz	0.35 mm/5 $g_n$
Shock	IEC/EN 60068-2-27, 11 ms	50 $g_n$
Bump	IEC/EN 60068-2-29, 11 ms	25 $g_n$
Random vibration	IEC/EN 60068-2-64, 20 - 500 Hz	4.9 $g_{n\ rms}$
MTBF	MIL-HDBK-217E, $G_B$ , 40°C, notice 2	763'000 h

### Options

Extended temperature range	-40 to 71°C, ambient, operating	-9
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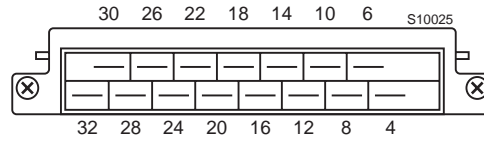
**Mechanical data**

Tolerances  $\pm 0.3$  mm (0.012") unless otherwise indicated.



**Pin allocation**

Pin no.	Electrical determination	
4	Output voltage negative	Vo-
6	Output voltage positive	Vo+
8	Phase	P $\approx$
10	Neutral	N $\approx$
12	Protective earth	$\oplus$
14	Protective earth	$\oplus$
16	-	n.c.
18	-	n.c.
20	Output good	Out OK+
22	Output good	Out OK-
24	-	n.c.
26	Output voltage positive	Vo+
28	Output voltage negative	Vo-
30	Output voltage positive	Vo+
32	Output voltage negative	Vo-



**Accessories**

Front panels 19" (Schroff/Intermas)

Mating H11 connectors with screw, solder, fast-on or press-fit terminals

Connector retention facilities and code key system for connector coding

Flexible PCB for connecting the converter via an H11 connector, if mounted on a PCB

Chassis or wall mounting plates for frontal access

Universal mounting brackets for chassis or DIN-rail mounting

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