LOS, LOR, LOK 4000 15, 30 and 50 Watt AC-DC Converters

Universal input range 85...264 V AC
Single output 5.1, 12, 24 or 48 V DC
3 kV AC I/O electric strength test voltage

LGA c**UL**us CE

- Compact design
- Battery charger versions
- Operating ambient temperature range
  −10...50°C with convection cooling

Selection chart

Output		Input voltage	Rated power	Type	Options[2]
$U_{o\,nom}$ [V DC]	$I_{o\,nom}$ [A]	U_i [V AC]	$T_A = 50°C$ $P_{o\,tot}$ [W]		
5.1	5.2	85...264	26	LOK 4001-2RLD	
12	1.25	85...264	15	LOS 4301-2	
12	2.5	85...264	30	LOR 4301-2	
12	4	85...264	48	LOK 4301-2R	
12...12.8[1]...15	3.6	85...264	49	LOK 4140-2RLD	
24	0.65	85...264	15	LOS 4601-2	F, F1, K
24	1.25	85...264	30	LOR 4601-2	
24	2	85...264	48	LOK 4601-2R	
24...25.7[1]...30	1.8	85...264	49	LOK 4240-2RLD	
48	1	85...264	48	LOK 4801-2R	
48...51.4[1]...60	0.9	85...264	49	LOK 4740-2RLD	

[1] Setting voltage $U_{o\,set}$ for battery charger with R-input open circuit.
[2] For minimum order quantity and lead time contact Power-One.

Input

Input voltage	world wide mains, single phase	85...264 V AC
	battery powered	88...372 V DC
Input frequency		47...63 Hz
Inrush current	limited by NTC 16 Ω	

Output

Efficiency	$U_{i\,nom}$, $I_{o\,nom}$	up to 86%
Output voltage setting accuracy	$U_{i\,nom}$, 50% of $I_{o\,nom}$	±1.5% $U_{o\,nom}$
Output voltage ripple & noise	$U_{i\,nom}$, $I_{o\,nom}$	<1% $U_{o\,nom}$
Line load regulation	$U_{i\,min}...U_{i\,max}$, I_o = 10...100% of $I_{o\,nom}$	±1%
Minimum load	not required	
Current limitation	12/24/48 V types, hiccup mode	short-time overload capability
Current limitation (L)	5V types and battery chargers, rect. U/I charact.	max. 130% $I_{o\,nom}$
Operation in series	add reverse polarity diodes to the outputs	
Operation in parallel	with battery charger versions possible	
Hold-up time	115/230 V	14/90 ms

Power-one®

Protection

Input fuse	not user accessible	1.6 A, slow blow
Input transient protection	voltage depending resistor (VDR)	
Output	no-load, overload and short circuit proof	

Control

Status indication	LED output O.K.	
Output voltage adjustment	R input - recitfier version	90...110% $U_{o\,nom}$
Output undervoltage monitoring	D battery charger	typ. 80% U_{oset}

Safety

Approvals	EN 60950, UL 1950, CSA22.2 No. 950, UL 508 listed	in progress
Electric strength test voltage	input/protective earth	1.5 kV AC
	input/output	3 kV AC
	output/protective earth	1 kV AC
Pollution degree		2
Degree of protection		IP 20

EMC

Electrostatic discharge	IEC/EN 61000-4-2, level 2 (8 kV)	criterion B
Electromagnetic field	IEC/EN 61000-4-3, level 2 (3 V/m)	criterion B
Electr. fast transients/bursts	IEC/EN 61000-4-4, level 3 (2 kV)	criterion B
Surge	IEC/EN 61000-4-5, level 3, line to prot. earth (2 kV)	criterion B
	IEC/EN 61000-4-5, level 2, line to line (1 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

Environmental

Operating ambient temperature	$U_{i\,nom}$, $I_{o\,nom}$, convection cooled	−10...50°C
Operating case temperature T_C	$U_{i\,nom}$, $I_{o\,nom}$	−10...80°C
Storage temperature	non operational	−40...85°C
Damp heat	IEC/EN 60068-2-3, 93%, 40°C	21 days
Vibration, sinusoidal	IEC/EN 60068-2-6, 10...60/60...2000 Hz	0.15 mm/2 g_n
Shock	IEC/EN 60068-2-27	11 ms/15 g_n
Bump	IEC/EN 60068-2-29	11 ms/10 g_n
MTBF	MIL-HDBK-217F, 6B, 40°	1'600'000 h

Options

Built-in second fuse in the neutral		F
No fuse fitted	(operation from DC voltage)	F1
System connectors with screw terminals		K

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Mechanical data

Tolerances ±0.3 mm (0.012") unless otherwise indicated.

S90042

38 (1.5")

90 (3.54")

1.8 (4.25")

113.6 (4.47")

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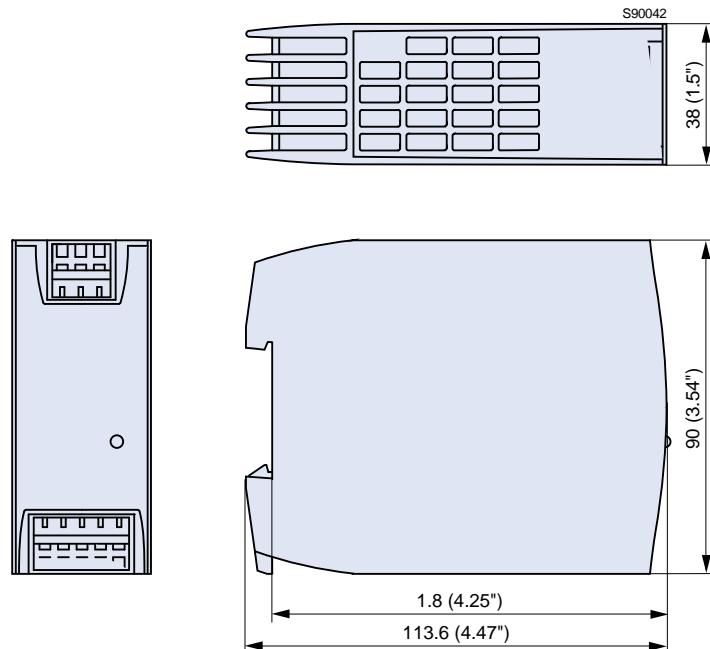
Terminal allocation

Terminal	Determination	LOS, LOR	LOK
1	Input	L	L
2	Protective earth	⏚	⏚
3	Input	N	N
4	Output (positive)/D	Vo+	Vo+/D
5	Output (positive)	Vo+	Vo+
6	Output (negative)	Vo–	Vo–
7	Output (negative)	Vo–	Vo–
8	n.c./R input	n.c.	R

Accessories

Protective covers over input and output terminals