

ACP-P0001

100-240V AC to 110V DC Converter

Features

- Input Voltage Range : 100VAC to 240 VAC ($\pm 10\%$)
- Mains Buffering : Typ. 37ms (120VAC) , Typ. 38ms (230VAC)
- Nominal Output Voltage (U_N) : 110VDC
- Setting Range of the Output Voltage (U_{Set}) : 110VDC to 135VDC
- Nominal Output Current (I_N) : 4A
- Output Power (P_N) : 440 W
- Efficiency : Typ. 93.5% (120VAC), Typ. 94.7% (230VAC)
- Residual Ripple : 600 mV_{pp}
- MTBF (IEC61709, SN29500) : >688000h (40°C)
- Dimension (WxHxD) : 70 x 130 x 125 mm

Appearance





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Revision Table

Date	Revision	Content	By
2025/7/15	0.1	First Draft	Elio

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Specification

Input Data	
Input Voltage Range	100 VAC - 240 VAC ($\pm 10\%$) 110 VDC – 250 VDC (-18% TO +40%)
Electric Strength Max	300 VAC 60 s
Frequency Range (f_N)	50 Hz - 60 Hz ($\pm 10\%$)
Current Draw Typ.	6.3A (100VAC) 5A (120VAC) 2.6A (230VAC) 2.5A (240VAC) 5.6A (110VDC) 2.3A (250VDC)
Discharge Current to PE Typical	<3.5mA 0.7 Ma (264VAC, 60Hz)
Mains Buffering	Typ. 37ms (120VAC) Typ. 38ms (230VAC)
Switch-On Time	<1s
Typical Response Time from SLEEP MODE	300ms
Protective Circuit	Transient Surge Protection Varistor, Gas-Filled Surge Arrester
Inrush Current Limitation	11A
Inrush Current Integral ($I^2 t$)	<0.3 A ² s
Input Fuse Slow-Blow, Internal	12A
Crest Factor	120VAC – Typ. 1.54
	230VAC – Typ.1.57

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Specification

Output Data	
Nominal Output Voltage (U_N)	110VDC
Settling Range Of The Output Voltage (U_{Set})	110VDC To 135VDC
Nominal Output Current (I_N)	4A
Static Boost ($I_{Stat.Boost}$)	5A
Dynamic Boost ($I_{Dyn.Boost}$)	6A (5s)
Selective Fuse Breaking (I_{SFB})	24A (15ms)
Magnetic Circuit Breaker Tripping	A1-A4 / B2-B4/C1-C2/Z1-Z4
Control Deviation Static Load Change 10%-90%	<0.5%
Control Deviation Dynamic Load Change 10%-90% (10Hz)	<4%
Control Deviation Change in Input Voltage $\pm 10\%$	<0.25%
Short-Circuit-Proof	Yes
No-Load Proof	Yes
Residual Ripple (with Nominal Values)	<600mV _{pp}
Connection in Parallel	Yes, for Redundancy and Increased Capacity
Connection in Series	Yes
Feedback Voltage Resistance	$\leq 160VDC$

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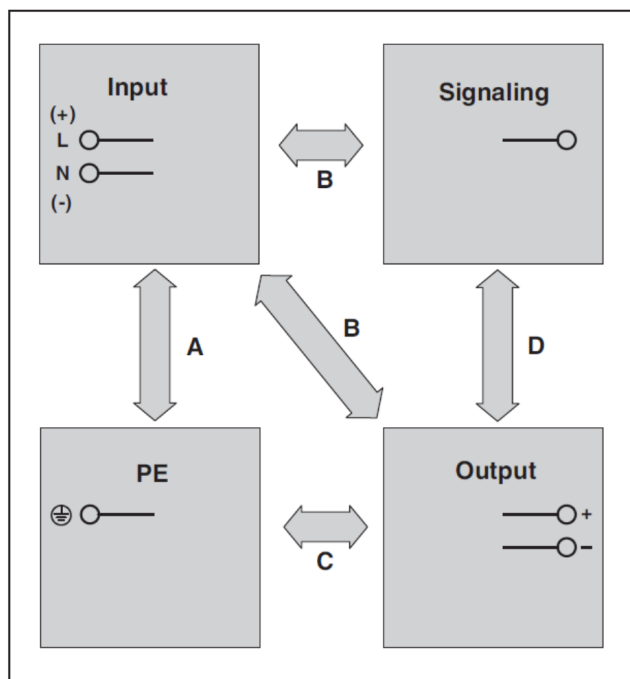
Specification

Protection Against Overvoltage at the Output (OVP)	<150VDC
Rise Time Typical	<1s ($U_{Out} = 10\% - 90\%$)
LED Signaling	
P _{Out} > 100 %	LED lights up yellow, output power > 440 W.
P _{Out} > 75 %	LED lights up green, output power > 330 W.
P _{Out} > 50 %	LED lights up green, output power > 220 W.
U _{Out} > 0.9 x U _{Set}	LED lights up green.
U _{Out} < 0.9 x U _{Set}	LED flashes green.
Mechanical Dimension	
Dimension (WxHxD)	70 x 130 x 125 mm
Weight	1.3 kg

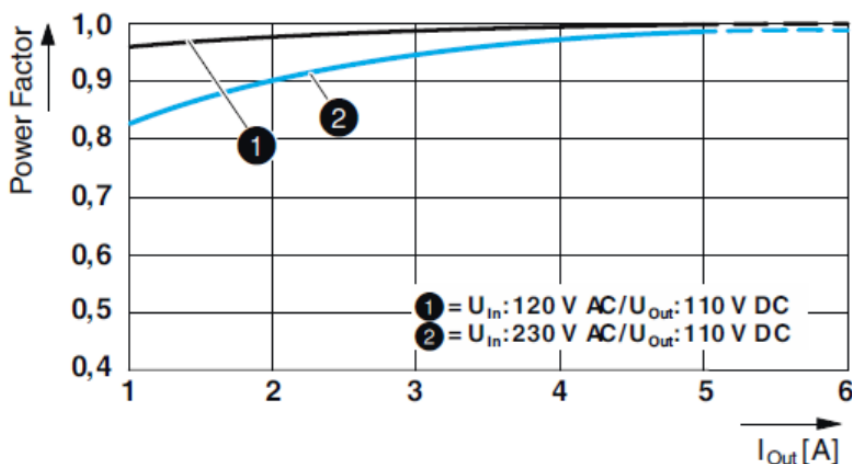
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Housing



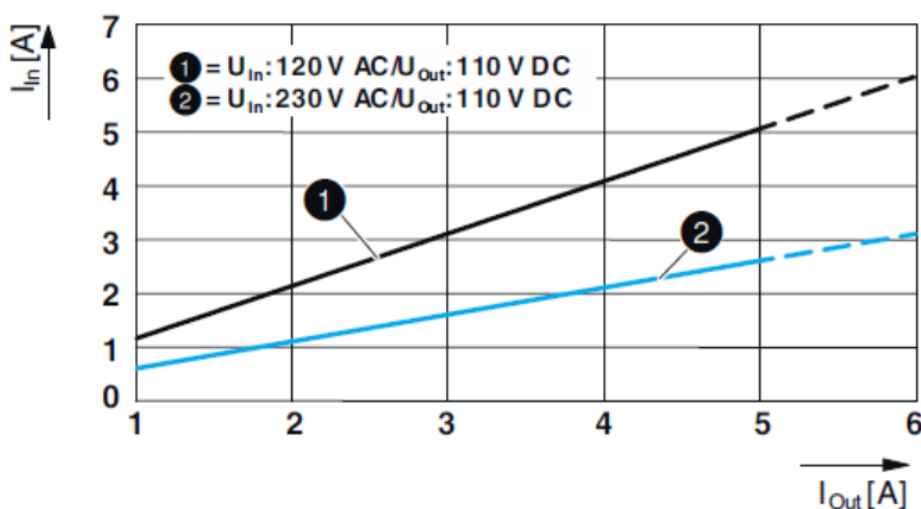
Power Factor



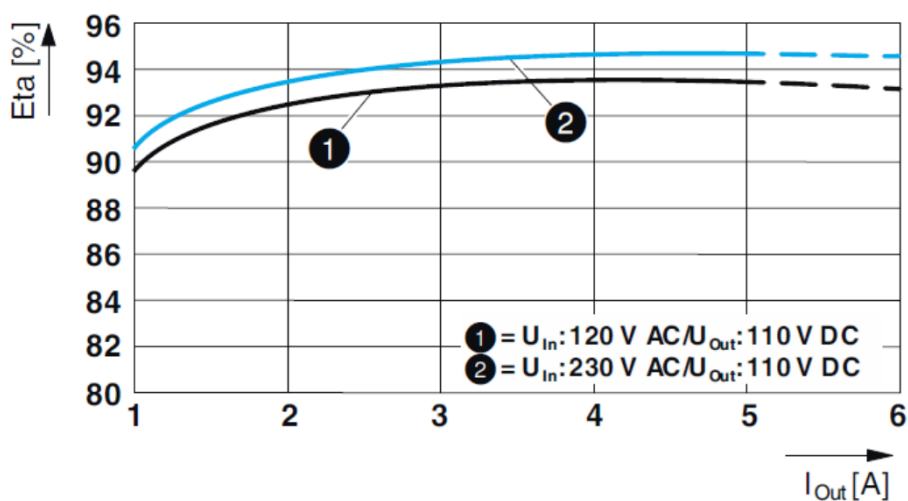
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Input Current Vs Output Current



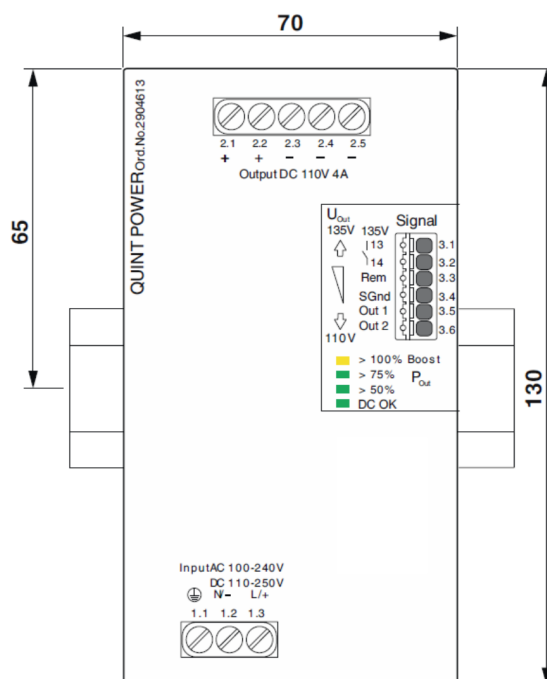
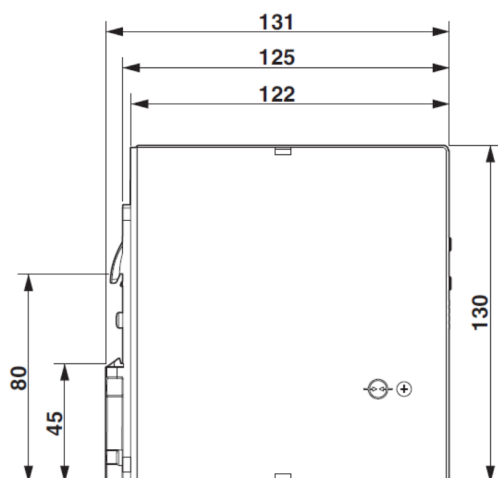
Efficiency



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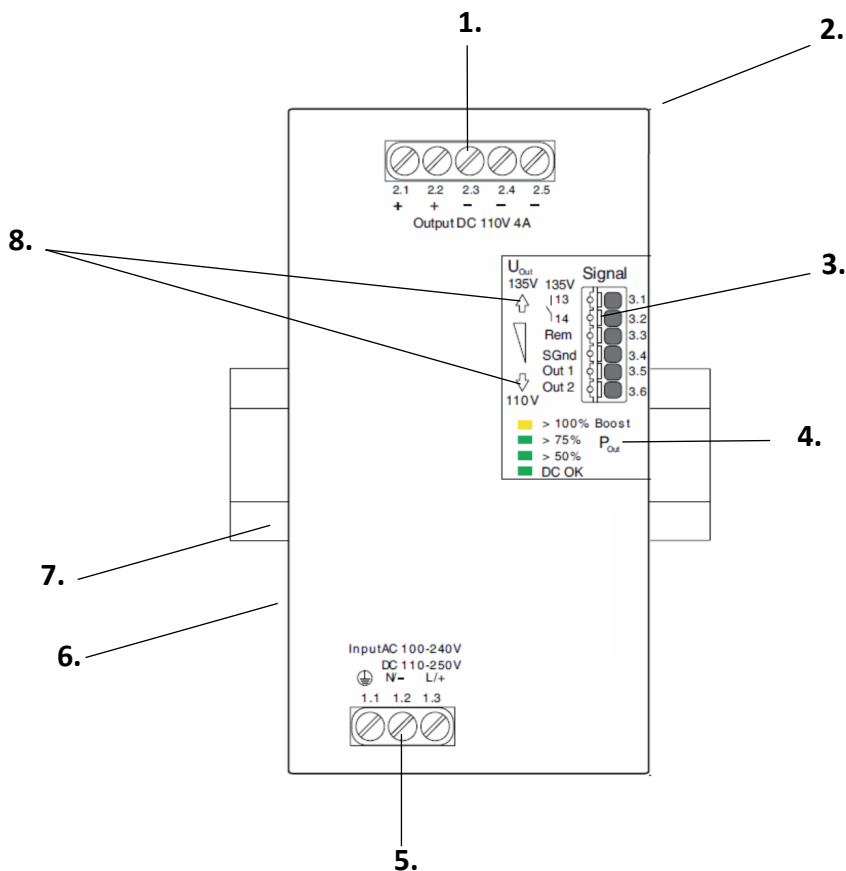
Device Dimensions (mm)



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Function Elements



Key

No.	Designation
1	DC Output Voltage Connection Terminal Blocks
2	Accommodation for Cable Binders
3	Signaling Connection Terminal Blocks
4	Status and Diagnostics Indicators
5	AC Input Voltage Connection Terminal Blocks
6	Gas Discharge Tube for Surge Protection (Left Side of Housing)
7	Universal DIN Rail Adapter (Rear of Housing)
8	Output Voltage Button  (-) /  (+)



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Environment Compliance

Operating Temp.	-25°C To +70°C (> 60 °C Derating: 2,5 %/K)
Storage Temp.	-40°C To +85°C
Humidity	≤ 95% (At 25°C, Non-Condensing)
Installation Height	≤ 4000 m (>2000m, Observe Derating)
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Standards	IEC61010-1 , EN 50121-3-2, EN 50121-5, EN 50163, IEC 62236-3-2, IEC 62236-5, IEC 61850-3, EN 61000-6-5

Environmental performance may vary according to the integration method or final integration scenario.

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Deliverables

1	100-240V AC to 110V DC Converter
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Reference



Ordering Information

Model Name	Description	Unit
ACP-P0001	100-240V AC to 110V DC Converter	1

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