



240ACDRH_SC Series

240W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated Industrial DIN Rail Enclosed Switching Power Supply

AC-DC Converter 240 Watt

- ⊕ Universal 85 - 264VAC or 120-370VDC input voltage
- ⊕ Accepts AC or DC input (dual-use of same terminal)
- ⊕ Operating ambient temperature range -40°C to +70°C
- ⊕ High efficiency, high reliability
- ⊕ DC OK function
- ⊕ Built-in active PFC function
- ⊕ 150% peak load output for 3 seconds
- ⊕ LED indicator for power on
- ⊕ Output short circuit, over-current, over-voltage, over-temperature protection

The 240ACDRH_SC series is featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. These light weight AC-DC converters have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international IEC/EN/UL62368, UL61010, UL508 standards for EMC and safety.



UL-61010-1 (E525601) - pending
UL-62368-1 (E347551) - pending

Common specifications	
Short circuit protection: (Recovery time < 3s after the short circuit disappear.)	Constant current, continuous, self-recovery
Operation temperature range:	-40°C~+70°C
Storage temperature range:	-40°C ~+85°C
Storage humidity range:	<95 %RH (Non-condensing)
Operating humidity range:	<90 %RH (Non-condensing)
Operating Altitude:	2000m
Power Derating:	Operating temperature derating • -40°C to -25°C 3.34%/°C min. • +40°C to +70°C/115VAC 1.67%/°C min. • +50°C to +70°C/230VAC 2.5%/°C min. Input voltage derating • 85VAC-100VAC 1.33 %/VAC min.
Safety standards:	Design refer to IEC/EN/UL62368-1, UL61010-1, UL508
Safety Class:	CLASS I
MTBF(MIL-HDBK-217F@25°C):	>300,000 hours
Case material:	Metal (AL1100, SPCC) and Plastic (PC945)
Cooling:	Free air convection
Dimensions:	124.00 x 54.00 x 110.00mm
Weight:	600g Typ.

Output specifications					
Item	Test conditions	Min	Typ	Max	Units
Output voltage accuracy	Full load range			±2.0	%
	• 12V Output • 24V/48V Output			±1.0	%
Line regulation	Rated load			±0.5	%
Load regulation	0% - 100% load			±1.0	%
Ripple & noise*	20MHz bandwidth (peak-to-peak value)		75	150	mV
Switching frequency			100		KHz
Hold-up time			20		ms

*The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.

Example:
240ACDRH_48SC
 240 = 240 Watts; AC = AC-DC; DR = Din Rail; H = Case style
 48 = 48Vout; S = Single Output C = PFC (Power Factor Correction)

Note:

- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta = 25°C, humidity <75% RH with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on our company corporate standards;
- In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
- We can provide product customization service, please contact our technicians directly for specific information;
- Products are related to laws and regulations: see „Features“ and „EMC“;
- The out case needs to be connected to PE (⬇) of system when the terminal equipment in operating;
- The output voltage can be adjusted by the ADJ, clockwise to increase;
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
- The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment.

Input specifications						
Item	Test conditions	Min	Typ	Max	Units	
Input Voltage Range	• Rated input (certified voltage)	100		240	VAC	
	• AC input	85		264	VAC	
	• DC input	120		370	VDC	
Input Frequency		47		63	Hz	
Input Current	115VAC			3	A	
	230VAC			1.5	A	
Inrush Current (Cold start)	115VAC			15	A	
	230VAC			30	A	
Leakage Current	264VAC					
	• Input - output • Input - (⬇)			<0.5mA <1mA		
Power Factor	115VAC			0.98		
	230VAC			0.94		
Hot Plug	Unavailable					

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Protection specifications			Isolation specifications					
Over-current Protection (230VAC, rated load)	<ul style="list-style-type: none"> Normal temp. high temp. Low temp. 	110% - 200% Io, self-recovery ≥105% Io, self-recovery	Item	Test conditions	Min	Typ	Max	Units
Over-voltage protection	<ul style="list-style-type: none"> 12V Output 24V Output 48V Output 	≤18V * ≤35V * ≤60V *	Isolation Test	Electric strength test for 1min., leakage current <10mA	2000			VAC
Over-temperature Protection (230VAC, 70% load)	<ul style="list-style-type: none"> Over-temperature protection start Over-temperature protection release 	90 °C Min. 60 °C Typ.		<ul style="list-style-type: none"> Input - ↓ Input - output Output - ↓ 	3000			VAC
			Insulation Resistance	At 500VDC	50			MΩ
				<ul style="list-style-type: none"> Input - ↓ Input - output Output - ↓ 	50			MΩ
					50			MΩ

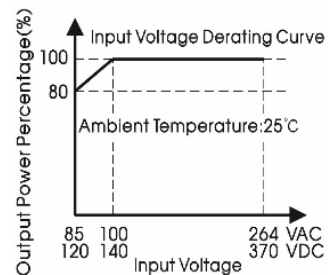
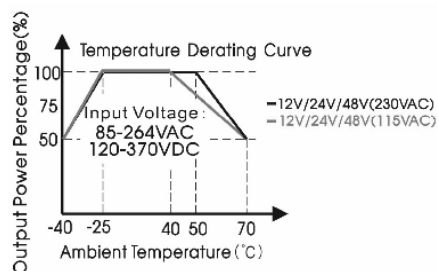
*Hiccup, self-recovery

EMC specifications		
Emissions	CE	CISPR32/EN55032 CLASS B
Emissions	RE	CISPR32/EN55032 CLASS B
Emissions	Harmonic current	IEC/EN61000-3-2 CLASS A and CLASS D
Immunity	ESD	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV perf. Criteria A
Immunity	RS	IEC/EN61000-4-3 10V/m perf. Criteria A
Immunity	EFT	IEC/EN61000-4-4 ±2KV perf. Criteria A
Immunity	Surge	IEC/EN61000-4-5 line to line ±2KV/line to ground ±4KV perf. Criteria A
Immunity	CS	IEC/EN61000-4-6 10Vr.m.s perf. Criteria A
Immunity	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11 0%, 70% perf. Criteria B

Product Selection Guide

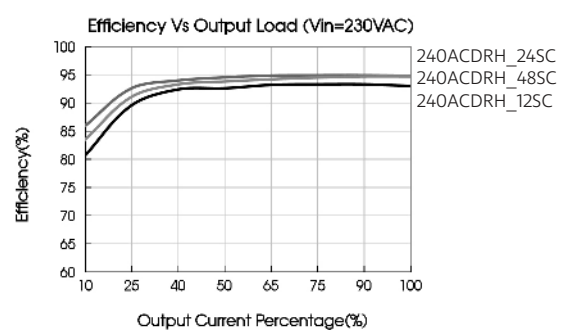
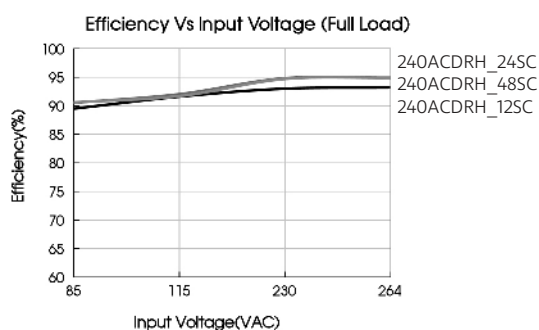
Certification	Part Number	Power [W]	Nominal Output [Vo, VDC]	Rated Current [Io/A]	Output Voltage Adjustable [Range, V]*	Efficiency at 230VAC [% , Typ.]	Capacitive Load [μF, Max.]
UL (pending)	240ACDRH_12SC	192	12V	16A	12.0-14.0	93	160,000
UL (pending)	240ACDRH_24SC	240	24V	10A	24.0-28.0	94	40,000
UL (pending)	240ACDRH_48SC	240	48V	5A	48.0-53.0	94	10,000

Typical characteristics



- Note:
1. With an AC input voltage between 85 -100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;
 2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult our FAE.

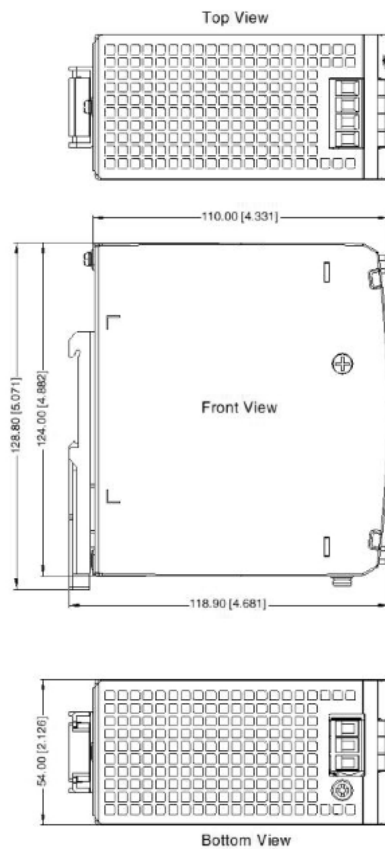
Efficiency



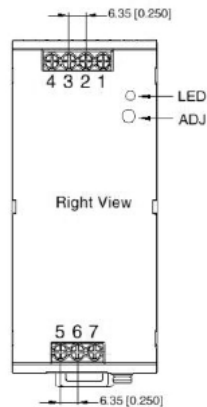
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Mechanical dimensions



THIRD ANGLE PROJECTION



Pin-Out	
Pin	Mark
1	-Vo
2	-Vo
3	+Vo
4	+Vo
5	AC(N)
6	AC(L)
7	

Note:

Unit: mm[inch]

ADJ: Output adjustable resistor

Wire range: 26-10 AWG

Tightening torque: Max 0.4 N·m

Mounting rail: TS35, rail needs to connect safety ground

General tolerances: $\pm 1.00[\pm 0.039]$