



240ACDRT_SC series

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

AC-DC Converter 240 Watt

- ⊕ 3-Phase 340~550VAC wide range input (2-phase operation possible)
- ⊕ Protection: short circuit/overload/over voltage/over temperature
- ⊕ Built-in constant current limiting circuit
- ⊕ Built-in passive PFC function
- ⊕ DC output voltage adjustable

The 240ACDRT_SC series are designed with metal housing and for three phase system with wide range from 340VAC to 550 VAC.

The series offer built-in constant current limiting circuit and active PFC function, and operating in wide temperature range.

They are suitable for industrial-related applications such as industrial control, semiconductor fabrication equipment, and factory automation etc.



UL-61010-1 (E525601)

Common specifications	
Operation temperature:	-30°C~+70°C (Refer to „Derating Curve“)
Storage temperature:	-40°C ~+85°C
Storage humidity:	10 ~ 95 %RH (Non-condensing)
Operating humidity:	20 ~ 95 %RH (Non-condensing)
Vibration:	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to EC60068-2-6
Operating altitude:	5000 meters
Over voltage category:	III; According to EN61558, EN50178, EN60664-1, EN62477-1, EN60204-1; altitude up to 2000 meters
Safety standards:	UL61010-1, UL61010-2-201, BS EN/EN61558-1, BS EN/EN61558-216, EAC TP TC 004 approved, design refer to AS/NZS61558-1/-2-16
Withstand voltage:	I/P-O/P:4.87kVAC I/P-FG:2.4kVAC O/P-FG:0.5kVAC O/P-DC OK:0.5kVAC
Isolation resistance:	I/P-O/P, I/P-FG, O/P-FG: >100M Ohms / 500VDC / 25°C/ 70% RH
MTBF(MIL-HDBK-217F@25°C):	>1534,900 hours (Min.) Telcordia SR-332(Bellcore); 215.6K hrs (Min.)
Dimensions:	63mm x 113mm x 125mm
Weight:	1000g Typ.

Input specifications					
Item	Test conditions	Min	Typ	Max	Units
Input Voltage Range	Three-Phase 340 ~ 550VAC (Dual phase operation possible in connecting L1,L3,FG or L2,L3,FG) or 480 ~ 780VDC				
Input Frequency		47		63	Hz
Input Current	400VAC 500VAC		0.69 0.6		A
Inrush Current (Cold start)			50		A
Power Factor	400VAC at full load 500VAC at full load		0.53 0.52		
Leakage Current	<2mA / 530VAC				

Example:

240ACDRT_24SC

240 = 240 Watts; AC = AC-DC; DR = Din Rail; T = 3-Phase input; 24 = Vout; S = Single Output; C = PFC (Power Factor Correction)

Output specifications					
Item	Test conditions	Min	Typ	Max	Units
Voltage tolerance	Full load range		±1.0		%
Line regulation			±1.0		%
Load regulation			±0.5		%
Ripple & noise*	20MHz bandwidth • 240ACDRT_24SC • 240ACDRT_48SC			100 120	mVp-p mVp-p
Temperature Coefficient	(0-60°C)		±0.05		%/°C
Setup, rise time	2000ms, 60ms/400VAC at full load 1500ms, 60ms/500VAC at full load				
DC OK Signal	30VDC/1A Max.				
Efficiency (typ.)	92%				
Hold-up Time	20ms I 400VAC at full load 40ms I 500VAC at full load				
Over load	105 ~ 130% rated output power Protection type : Constant current limiting, unit will hiccup after 3 sec.				
Over voltage	30~36V 240ACDRT_24SC 56~65V 240ACDRT_48SC Protection type : Hiccup mode, recovers automatically after fault condition is removed.				
Over temperature	Shut down o/p voltage, recovers automatically after temperature goes down				
DC OK reley contact ratings (max.)	60VDC/0.3A, 30VDC/1A, 30VAC/0.5A resistive load				

*The "Tip and barrel method" is used for ripple and noise test, output parallel

Note:

- All parameters NOT specially mentioned at 400VAC input, rated load and 25°C of ambient temperature.
- Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
- Tolerance: includes set up tolerance, line regulation and load regulation.
- Dual phase operation is allowed under certain derating to output load. Please refer to derating curves for details.
- Installation clearances: 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.
- The ambient temperature derating of 3.5 °C/1000m for operating altitude higher than 2000m (6500ft).
- The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to „EMI testing of component power supplies.“ equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to „EMI testing of component power supplies.“

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EMC specifications

Emissions BS EN/EN55032(CISPR32)/BS EN/EN61204-3

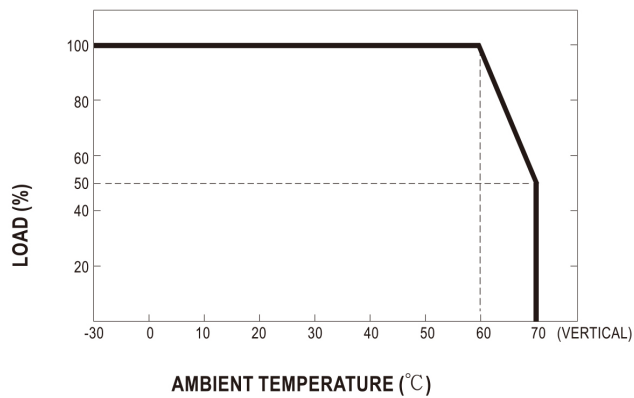
Immunity BS EN/EN61000-4-2, 3, 4, 5, 6, 8

Product Selection Guide

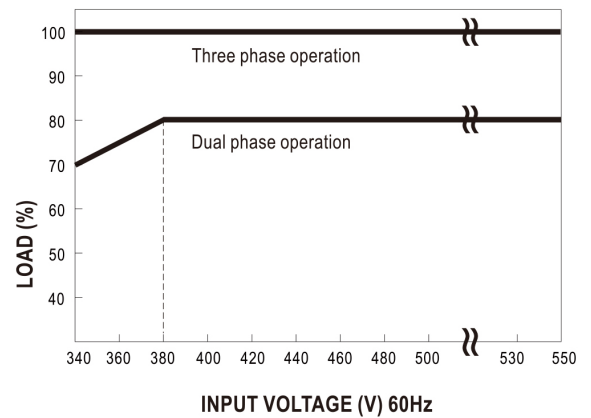
Certification	Part Number	Rated Power [W]	Nominal Output [Vo, VDC]	Rated Current [Io/A]	Output Voltage Adjustable [Range, V]*	Efficiency [%]
UL	240ACDRT_24SC	240	24V	10A	24-28	92
UL	240ACDRT_48SC	240	48V	5A	48-55	92

Typical characteristics

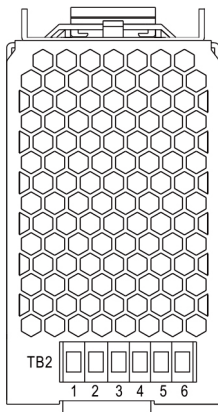
Deduction Curve And Temperature



Minus Output And Input Voltage Curves



DC OK relay contact



Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns off / DC Fail.
Contact Ratings (max.)	30VDC/1A, 30VAC/0.5A resistive load.

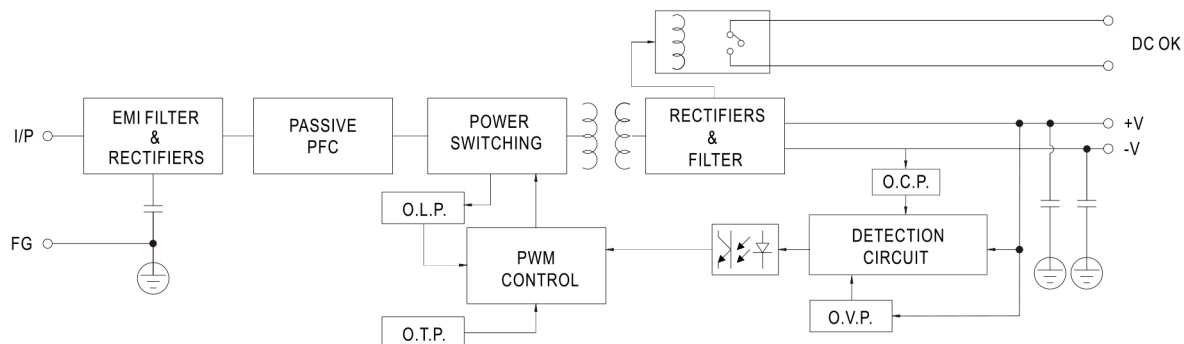
Output

No.	Description
5,6	DC OK Relay Contact

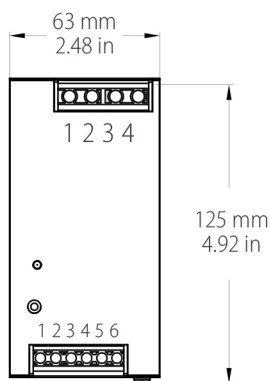
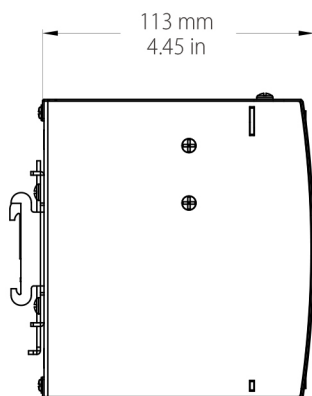
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Block Diagram



Mechanical dimensions



Input

No.	Description
1	AC/L1
2	AC/L2 or DC -
3	AC/L3 or DC +
4	FG Ⓧ

Output

No.	Description
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	DC OK Relay Contact