



## 120ACDRN\_SC series

120W - Single Output AC-DC Converter - Universal Input

### AC-DC Converter

120 Watt

- ⊕ DC O/P voltage adjustable
- ⊕ Universal AC input 90-264V
- ⊕ Protection: Short circuit/overload/over voltage/over temperature

- ⊕ Free air convection design
- ⊕ Installation: DIN rail TS-35/7.5 & 15

The 120ACDRN\_SC series metal case power family designed with slim plastic housing and for full range AC input from 90V AC to 264V AC.

The series are single phase PSU, providing adjustable DC output voltage. They have high efficiency and operate in wide temperature range. The series can widely be used for industrial automation & control systems varied equipments etc.



#### Common specifications

Short circuit protection:	
Over load	105 - 130% rated output power Protection type: Hickup mode, recovers automatically after fault condition is removed.
Over temperature	Shut down o/p voltage, re-power on to recover
Over voltage	120ACDRN_12SC 14 ~ 17V 120ACDRN_24SC 29 ~ 33V 120ACDRN_48SC 56 ~ 65V 120ACDRN_246SC 29 ~ 33V
Operating temperature:	-20~+70°C
Storage Temperature:	-40~+85°C
Operating humidity:	20%~95%RH, Non considering
Storage humidity:	10%~95%RH
Safety standard:	UL508, BS/EN62368-1
MTBF:	2241.28K Hours min. Telcordia SR-332 (Bellcore)
Dimension:	40 × 125 × 113 mm
Weight	0.6Kg

#### Input specifications

Item	Operating condition	Min	Typ	Max	Units
Rated input	Certified voltage	100		240	VAC
Nominal input voltage range	[DC input by connecting AC/L(+), AC/N(-)]	90 127		264 370	VAC VDC
Frequency range		47		63	Hz
AC Current	115 VAC 230VAC		2.25 1.3		A
Inrush current	115 VAC 230VAC		20 35		A
Leakage current	240VAC			1	mA

#### Example:

#### 120ACDRN\_24SC

120 = 120Watt; AC = AC-DC; DRN = Din Rail series; 24 = 24Vout;  
S = Single output; C = PFC (Power Factor Correction);

#### Output specifications

Item	Operating condition	Min	Typ	Max	Units
Voltage tolerance			±2.0		%
Line regulation			±0.5		%
Load regulation			±1.0		%
Ripple & noise	120ACDRN_10SC 120ACDRN_05SC 120ACDRN_02SC 120ACDRN_06SC			100 120 150 150	mVp-p
Setup rise time	230 VAC at full load 115 VAC at full load	1200 2500		60 60	ms

#### Isolation specifications

Item	Operating Conditions	Min	Typ	Max	Units
Withstand voltage	I/P-O/P		3		KVAC
	I/P-FG		2		
	O/P-FG		0.5		
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG >100 Ohms / 500VDC / 25°C / 70% RH				

#### EMC specifications

EMC Emissions	BS EN/EN55032, BS EN/EN61000-3-2, -3
EMC Immunity	BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035, BS EN/EN61000-6-2 (BS EN/EN50082-2)

#### Note:

- All parameters NOT specially mentioned at 230VAC input, rated load and 25°C of ambient temperature.
- Ripple & noise are measured from peak to peak with band width limit of 20MHz (0.1uF/50V parallel capacitor under DC output full load, AC nominal input 25°C ambient temperature).
- Installation clearances: top with 40mm, bottom with 20 mm, left and right with 5mm. Increase the space to 10-15mm when the adjacent device is heat source.
- Derating may be needed under low input voltage. Please check the derating curve for more details.
- Efficiency test after 30 minutes of burn-in.
- The ambient temperature derating of 3.5 °C/1000m for operating altitude higher than 2000m(6500ft).

## Product Selection Guide

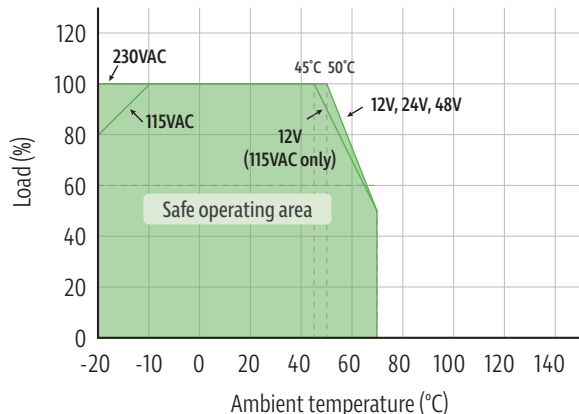
Certification	Model	DC Voltage (V)	Rated Current (max) A	Rated Power (W)	Voltage Adj. Range (V)	Efficiency (Typ) %
UL	120ACDRN_12SC	12	10	120	12-14	85.5
UL	120ACDRN_24SC	24	5	120	24-28	88
UL	120ACDRN_48SC	48	2.5	120	48-55	89

# 120ACDRN\_SC series

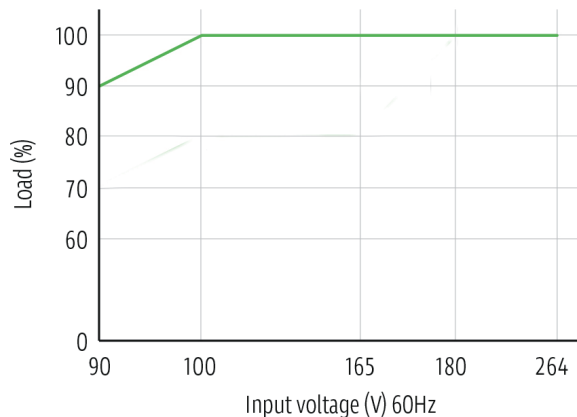
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## Product Characteristic Curve

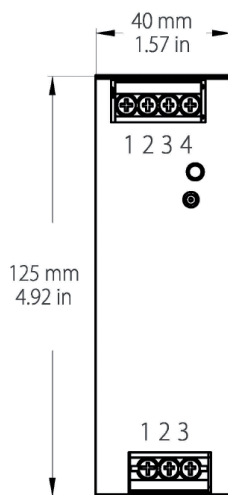
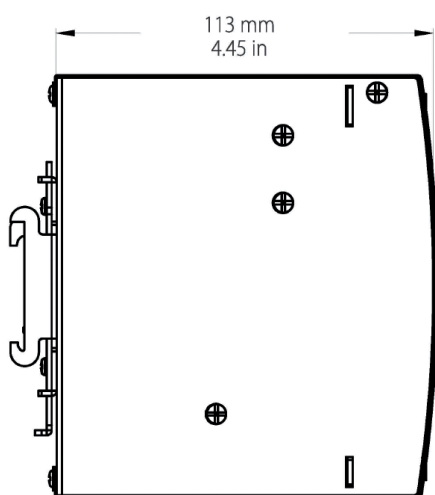
Temperature derating graph



Output and Input Voltage Curve



## Dimensions and Recommended Layout



Input	
PIN	Mark
1	FG ⊕
2	AC/N
3	AC/L

Output	
PIN	Mark
1,2	DC OUTPUT -V
3,4	DC OUTPUT +V

## Block Diagram

