



## 120ACDR1\_SC3 series

120W - Single Output AC-DC Converter

### AC-DC Converter

120 Watt

- ⊕ Input range 90~264VAC
- ⊕ DC output voltage adjustable
- ⊕ LED indicator for power on
- ⊕ Operating temperature: -30°C to +70°C  
Cooling by free air convection
- ⊕ Short circuit protection (SCP)
- ⊕ Over load, over voltage and over temperature protection
- ⊕ DIN rail TS-35/7.5 or 15

Introducing our new DIN rail power supply 120ACDR1\_SC3 series, engineered for flexible industrial use with a wide 90–264VAC input range and adjustable DC output voltage. Equipped with a power-on LED indicator and designed for reliable performance across a broad operating temperature range from -30°C to +70°C, this series offers efficient convection cooling and robust protection features including short circuit, overload, overvoltage, and overtemperature safeguards. Its compact design supports standard DIN rail mounting (TS-35/7.5 or 15), making it ideal for control panels and automation environments.



#### Common specifications

Short circuit protection:	Hiccup mode, recovers automatically after fault condition is removed
Over load	105-130% rated current, constant current mode; when the output voltage <50% Vo, hiccup mode, recovers automatically after fault condition is removed
Over temperature	Shut down output voltage; recovers automatically after temperature decreases
Working temperature	-30~+70°C (with derating)
Storage temperature	-40~+80°C
Working humidity	20%~95%RH, non-condensing
Storage humidity	10%~95%RH, non-condensing
Cooling	Free air convection
MTBF	Under 25°C: 100,000hrs, Telcordia SR-332 issue 3 Method
Vibration	10~500Hz, 2G, 10min/1 cycle, 60min.each along X, Y, Z axes
Impact	20G, last 11mS, 3 impacts along X, Y and Z axes
Altitude	5000mtrs, the ambient temperature derating of 0.6°C/100m for operating altitude higher than 2000m
Standards	EN61000-4-2, 3, 4, 5, 6, 8, 11\GB17625.1\EN61000-3-2, -3\EN55032\GB4943\UL62368-1\IEC62368-1
Safety specification	Design refer to: GB4943/UL62368-1
Dimension:	125 x 113 x 42 mm

#### Input specifications

Item	Operating condition	Min	Typ	Max	Units
Voltage range		90		264	VAC
Rated voltage		100		240	VAC
Current	100VAC			3	A
Frequency range		47		63	HZ
Leakage current	240VAC			1	mA
Inrush current	220VAC			40	A

#### Example:

##### 120ACDR1\_24SC3

120 = 120Watt; AC = AC-DC; DR1 = Din Rail, 24 = 24Vout; S = Single output; C = PFC (Power Factor Correction); 3 = 3kVAC isolation;

#### EMC specifications

EMS	Design refer to: EN61000-4-2, 3, 4, 5, 6, 8, 11
Harmonic current	Design refer to: GB17625.1; EN61000-3-2 A
EMC	Design refer to: EN55032 (CISPR32) Class B

#### Output specifications

Item	Operating condition	Min	Typ	Max	Units
Line regulation			±0.5		%
Load regulation			±1.0		%
Output voltage accuracy			±2		%
Setup rise time	220VAC, 100% load	1500		50	ms
Hold up time	110VAC 100% load		10		ms
	220VAC 100% load		16		
Temperature coefficient	(0-50°C)		±0.03		%

#### Isolation specifications

Item	Operating Conditions	Min	Typ	Max	Units
Withstand voltage	I/P-O/P: 3kVAC/10mA; I/P-CASE: 1.5kVAC/10mA; O/P-CASE: 0.5kVAC/10mA each testing time: 1min				
Isolation impedance	500VDC; I/P-O/P: 10M ohms; I/P-Case: 10M ohms; O/P-Case: 10M ohms				

- In order to extend the service life, it is recommended to leave 30% more allowance when loading. For example, if the equipment needs 100W power, please choose the power supply over 130W.
- Ripple & noise are measured at 20MHz of bandwidth by using a 12' twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
- The auxiliary heat dissipation of aluminum plate with an area of 400 x 400 x 3mm must be used when full load working.
- 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. All our EMC tests are carried out by mounting samples on metal plates.
- Please follow the installation instructions when use the power supply.
- Before power on test run after installation, please check and proofread the wiring on each terminal, make sure that the input and output, AC and DC, positive and negative, voltage and current values are correct, prevent the occurrence of wrong connection, and avoid damaging the power supply and user equipment.
- Before power on, please use a multimeter to measure whether the live wire, zero wire and ground wire are short circuited, and whether the output terminal is short circuited; it is better to start without load when power on.
- Do not exceed the nominal value of the power supply when using, so as not to affect the reliability of the product. If you need to change the output parameters of the power supply, please consult our technical department before using.
- In order to ensure the safety of use and reduce interference, please ensure that the grounding terminal is reliably grounded (ground wire please thicker than AWG18#).
- If the power supply fails please contact our customer service department.

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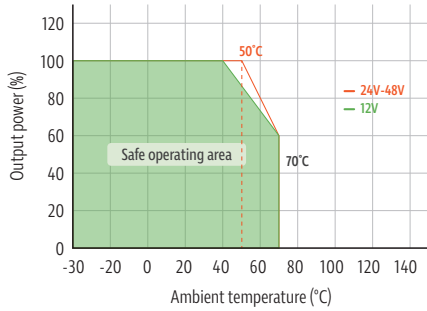
## Product Selection Guide

Certification	Part number	DC Voltage (V)	Rated Current (A)	Power (W)	Voltage setting range (V) (10% load)	Voltage Adj. Range (V)	Efficiency (typ) %	Over voltage (10% load) (V)*	Ripple & noise mVpk-pk
UL	120ACDR1_12SC3	12	0-10	120	12.0-12.2	10.8-13.2	85	13.8-17	120
UL	120ACDR1_24SC3	24	0-5	120	24-24.3	21.6-26.5	87	27.5-32.5	150
UL	120ACDR1_48SC3	48	0-2.5	120	48.0-48.4	44-53	88	56-65	240

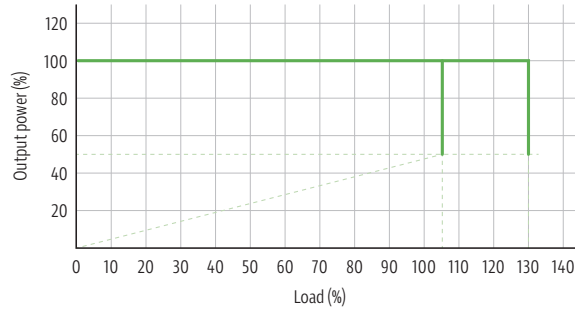
Note: \*Constant voltage, recovers automatically after fault condition removed

## Product characteristic curve

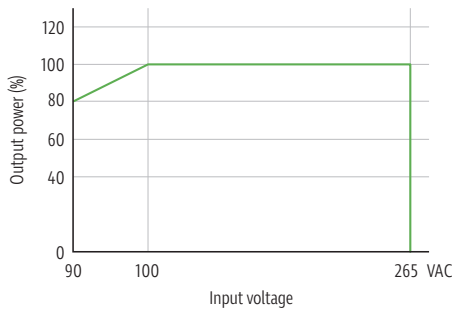
Temperature derating graph



Out voltage vs. load

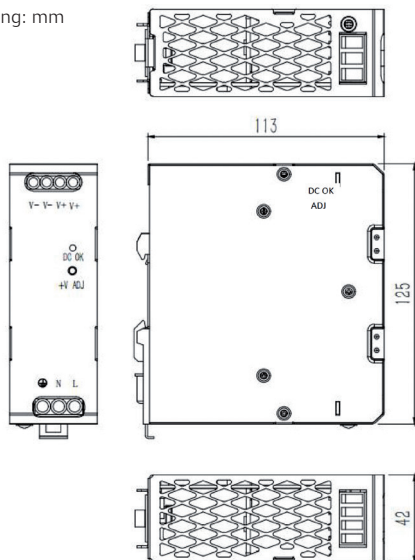


Input voltage derating curve



## Dimensions and recommended layout

Drawing: mm



Input	
PIN	Mark
⊕	Earth
N	AC neutral
L	AC line
V+	+Vo
V+	+Vo
V-	-Vo
V-	-Vo