

Features

- Class I structure
- Input voltage: 100-240Vac
- Compliant with EMC EN55035/55032 Class B
- Operating temperature up to 70°C
- Over-voltage Category: III
- Can withstand a 305Vac surge input for 5 seconds
- Low standby power consumption, standby power consumption≥0.5W
- 200% peak load with 5S (Version B)
- OVP/OLP/SCP protection.
- Can be installed on DIN rail TS-35/15/7.5
- 3 years warranty



Applications

Industrial control system, industrial equipment, power system, rail transportation.

Model list

Model No.	Input Voltage	Power Max.	Output Voltage	Output Current Max.	Efficiency Typ.	Ripple Current	Voltage ADJ.
DL-120W-V12M-EDC	100-240Vac	120W	12Vdc	10A	89%	150mV	±10%
DL-120W-V15M-EDC	100-240Vac	120W	15Vdc	8A	90%	150mV	±10%
DL-120W-V24M-EDC	100-240Vac	120W	24Vdc	5A	91%	150mV	±10%
DL-120W-V36M-EDC	100-240Vac	120W	36Vdc	3.34A	91%	250mV	±10%
DL-120W-V48M-EDC	100-240Vac	120W	48Vdc	2.5A	91%	250mV	±10%
DL-120W-V12MB-EDC	100-240Vac	120W	12Vdc	10A	89%	150mV	±10%
DL-120W-V15MB-EDC	100-240Vac	120W	15Vdc	8A	90%	150mV	±10%
DL-120W-V24MB-EDC	100-240Vac	120W	24Vdc	5A	91%	150mV	±10%
DL-120W-V36MB-EDC	100-240Vac	120W	36Vdc	3.34A	91%	250mV	±10%
DL-120W-V48MB-EDC	100-240Vac	120W	48Vdc	2.5A	91%	250mV	±10%

Remark:

1. The above parameters are tested under the following conditions: Ta = 25℃, 230Vac input, and after 30 minutes of full load operation.
2. Ripple and noise measurement method: use a 12" twisted-pair wire terminated with 0.1μF & 47μF parallel capacitor, and measured at 20MHz bandwidth.

Input characteristics

Parameter	Min.	Typ.	Max.	Note
Rated input voltage	100Vac	230Vac	240Vac	N/A
Input voltage range	90Vac	-	264Vac	DC input range: 127Vdc - 373Vdc
Rated frequency	47Hz	50/60Hz	63Hz	N/A
Input current@100Vac	-	2.1A	-	100% load@100Vac
Input current@230Vac	-	1.2A	-	100% load@230Vac
Inrush current@100Vac	-	-	35A	100Vac, cold start (25℃)
Inrush current@230Vac	-	-	55A	230Vac, cold start (25℃)
Leakage current	-	-	0.25mA	RMS Max.

Output characteristics

Parameter	Min.	Typ.	Max.	Remark
Output tolerance	-	±2%	-	0-100% load
Line regulation	-	±1%	-	Rated load
Load regulation	-	±1%	-	@230Vac
Setup/Rise Time	-	-	1000ms/30ms	@230Vac
Hold up time	16ms	-	-	100Vac, rated load

Protection

Function	Description
Output overload protection	1.4-1.8 times the rated output power; hiccup restart mode, which can automatically recover after the abnormal load condition is removed
Output short-circuit protection	Hiccup mode: recovers automatically after fault condition is removed
Output Over voltage Protection	The output voltage will shut down when it exceeds 1.08-1.2 times the rated voltage

Function

Function	Description
DC OK	When the power supply is not working properly, the DC OK signal voltage is -0.1-0.5V; when the power supply is working properly, the DCOK signal voltage is 4.5-6V (60mA)

Environmental

Environmental Categories	Parameter
Rated working temperature	-40 ~ +50℃@100-240Vac
Max. operating temperature range	-40 ~ 70℃; Exceeds 50℃, the power will be reduced by 2% per 1℃ increase in temperature. please refer to the derating curve for details
Working humidity	20 ~ 95% RH, non-condensing
Storage temperature, humidity	-30~+85℃, 10 ~ 90% RH non-condensing
Vibration	10 ~ 500Hz, 5G 12min/cycle, 72 min, each along X, Y, Z axes
MTBF	230Khrs min. MIL-HDBK-217F (Ta=25℃)
Lifetime	30000 hours@230Vac, ambient temperature 50℃, please refer to "Lifetime/ Ambient temperature curve"

Safety and EMC

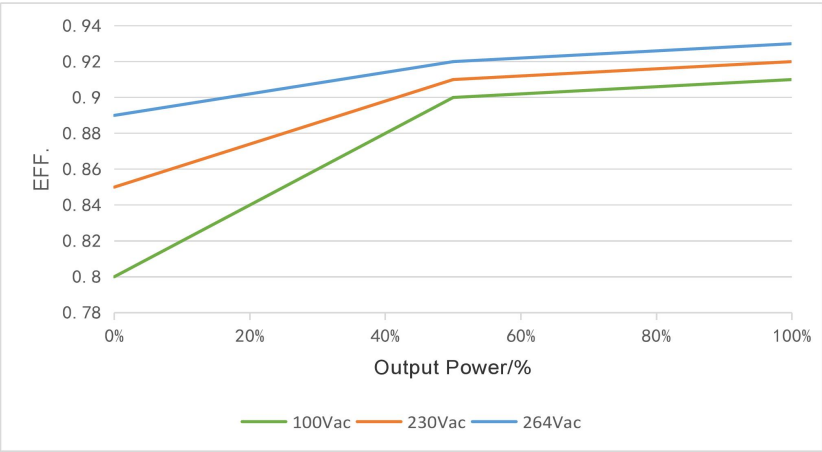
Safety categories	Standard
Safety	GB4943.1, EN62368-1, 62367, EN61558-1-2, 61555, IEC62368-1, IEC61558-1-2, AS/NZS62368-1, AS62368-1 UL62368
EMC	EMI BS EN/EN55032, EN55035 Class B
	Harmonic Current BS EN/EN 61000-3-2 Class A
	ESD BS EN/EN 61000-4-2
	EFT/Burst BS EN/EN 61000-4-4
Surge protection	Differential mode L-N $\pm 2\text{KV}$ (2 Ω), common mode, L,N-G $\pm 4\text{KV}$ (12 Ω), Harmonic Current, Refer to IEC61000-4-5 2014
Withstand voltage	I/P-O/P: 4KVac; I/P-PE :2KVac; O/P-PE: 1.5KVac
Insulation resistance	I/P-PE: 100M Ω / 500Vdc; I/P-O/P: 100M Ω / 500Vdc / 25℃/ 70% RH

Remark:

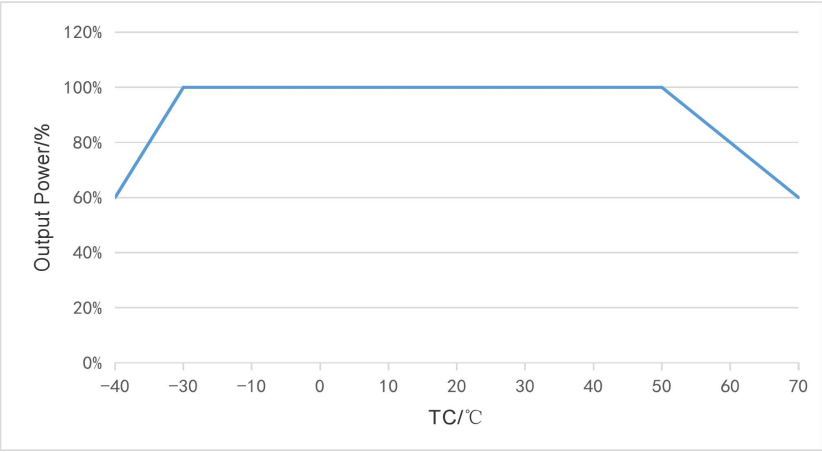
- 1.The power supply is considered a component which will be installed into the terminal equipment.
- 2.The EMC is affected by the entire equipment.
- 3.The terminal equipment must be reconfirmed to meet the EMC directives.

Parametric curves

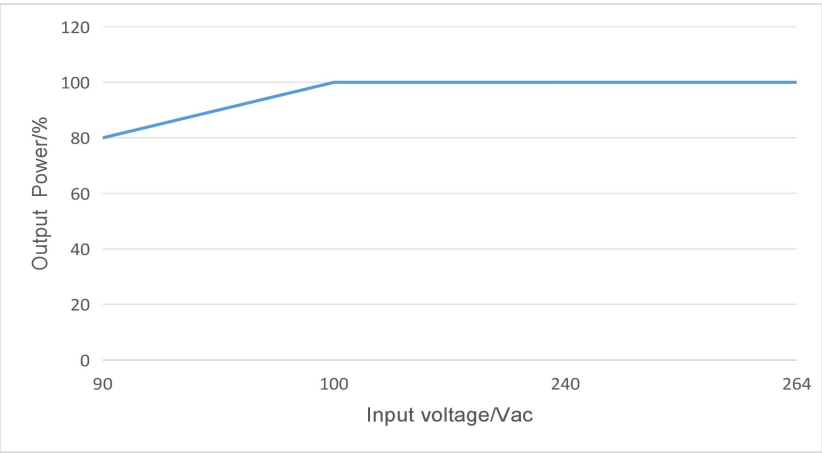
Power/ Efficiency curve



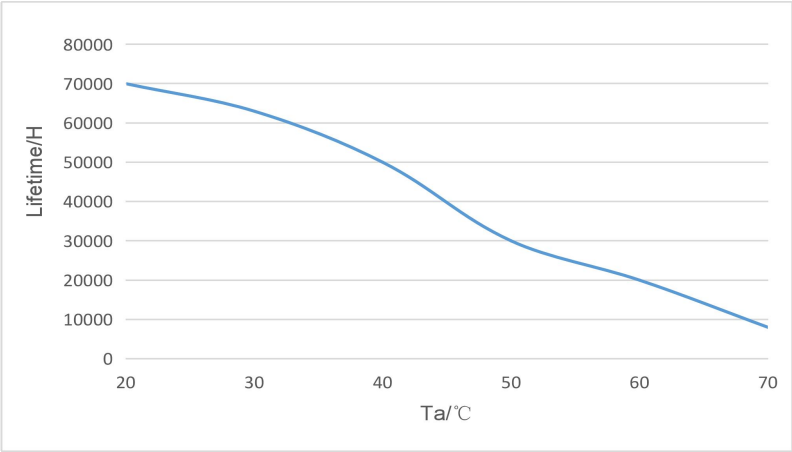
Power/ Ambient temperature



Power/ Input voltage

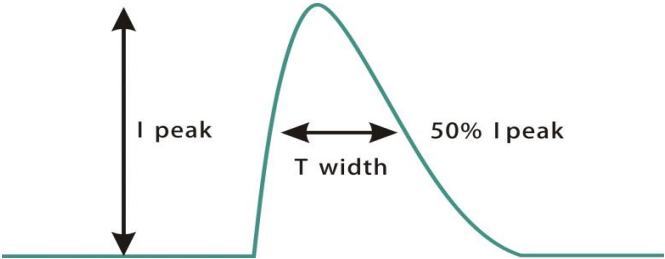


Lifetime/ Ambient temperature

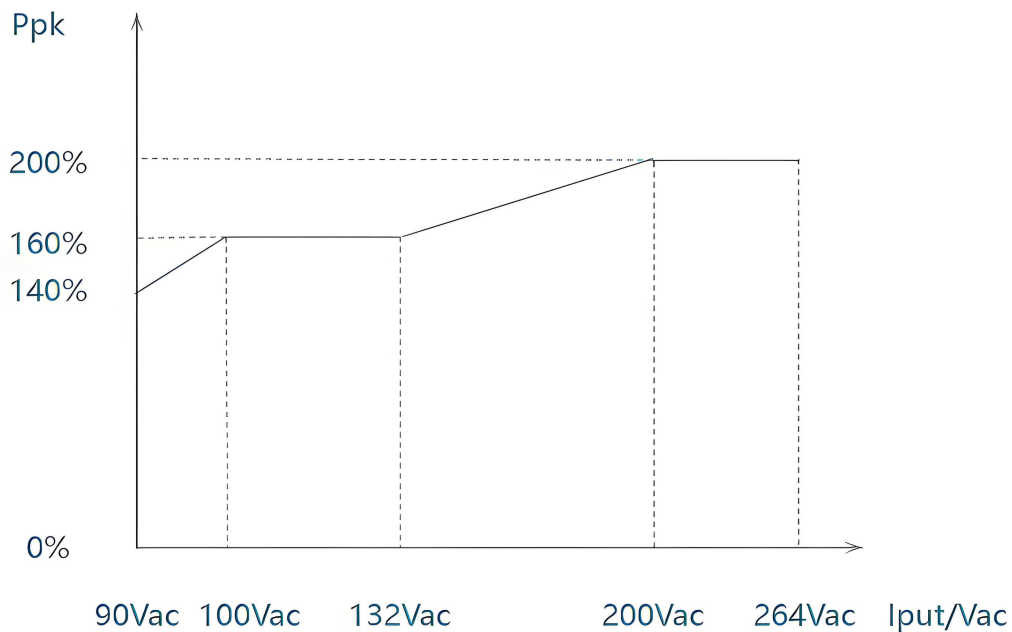


Inrush current

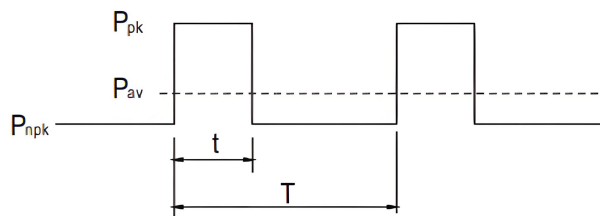
Input voltage	Peak current	T (@50% peak current)
100Vac	35A	312us
230Vac	55A	336us
240Vac	60A	328us



Peak power characteristic



Peak Power Curve Graph, within the input range of 132-200Vac, supports peak power output, with the output range being 160%-200% interval



$$P_{av} = \frac{P_{pk} \times t + P_{npk} \times (T-t)}{T} \leq P_{rated}$$

$$\text{Duty} = \frac{t}{T} \times 100\% \leq 35\%$$

$$t \leq 5 \text{ sec}$$

P_{av}: Average output power

P_{pk}: Peak power output

P_{npk}: Off-peak output power (the actual selected load power)

P_{rated}: Output rating

t: Peak power operating time

T: Peak power waveform cycle time

Remark:

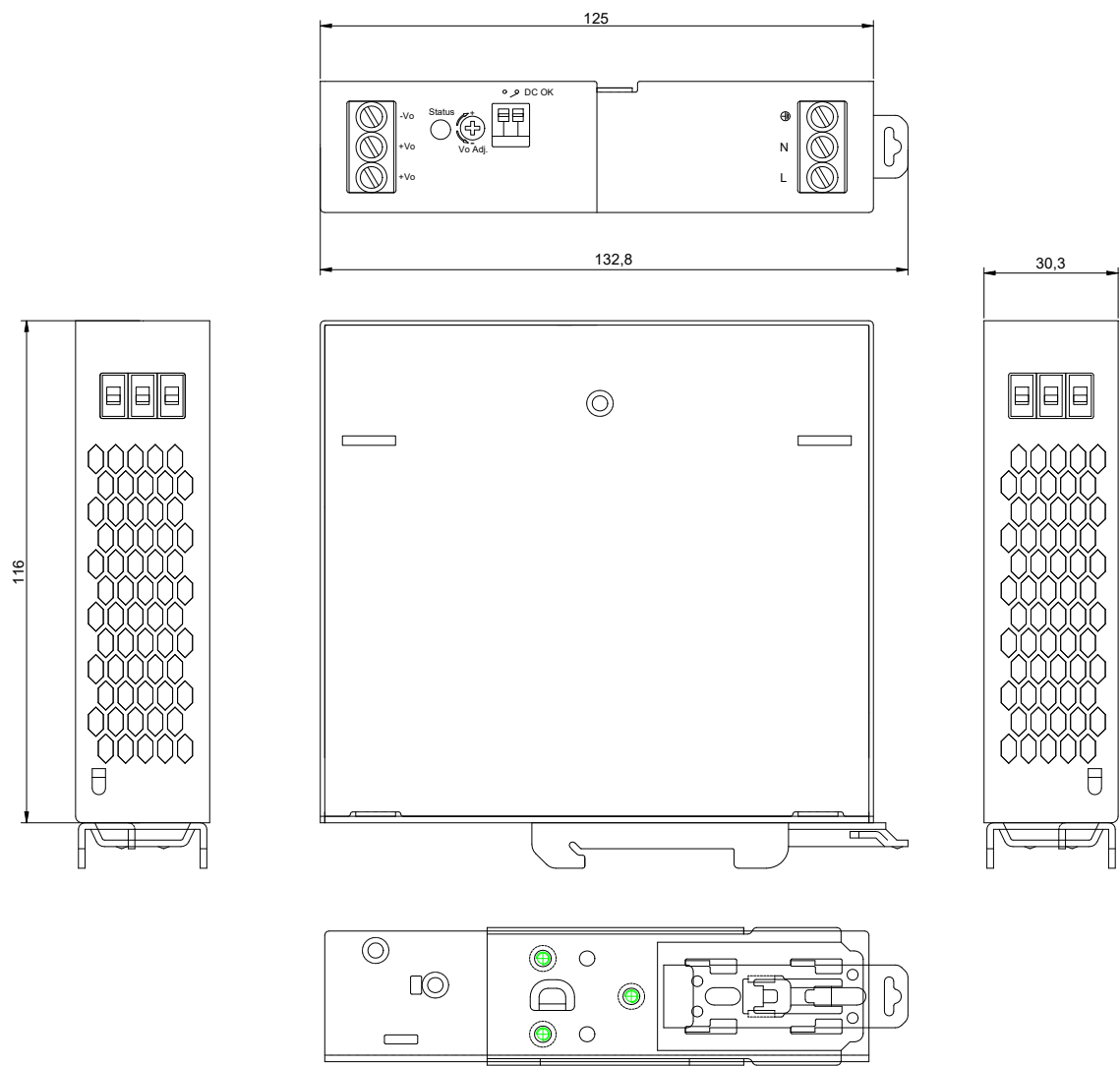
The average output power must not exceed the rated power. If it does, it will shorten the lifespan of the power supply or cause damage. In the application environment with peak power, the non-peak power (the actual selected load power) must be less than the rated power in order to ensure that the average power is less than or equal to the rated power.

Duty it represents the actual ratio of the peak power carrying time to the actual peak power waveform period. Moreover, the Duty must be less than or equal to 35% (exceeding this ratio will result in a too low P_{npk} value). The characteristics of the EXC series products are $t \leq 5$ seconds. Based on the maximum peak power of 200%, $P_{npk} = 0.3 \times P_{rated}$; (When calculated with duty = 45%, $P_{npk} = 0.1 \times P_{rated}$. In extremely light load conditions, using a constant voltage power supply may cause ripple and performance degradation.)

Mechanical specification

Size&Weight

Size (mm) &Weight(Kg)	L116*W30.3*H132.8	0.45
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Recommended wiring			
	Exchange input T.B	DC output T.B	Signal connector
Solid line	6mm2max	6mm2max	1.5mm2max
A.W.G	16~10 AWG	16~10 AWG	24~16AWG
Stripping length	7~8mm	7~8mm	8~9mm
Screw segment torque	5Lb-In	5Lb-In	/

Packaging

Packaging (mm)	L395*W295*H285	40 PCS / Carton
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