

LO10-24B13K

Ultra wide input voltage range switched-mode power supply for electric-meter



FEATURES

- I Input voltage range: 30~280Vac/30~400Vdc;
- I Conduction/Radiation: Class B;
- I Burst/Surge: Class 4;
- I Multi-output protection functions: short circuit protection, over-voltage protection;
- I High efficiency, high reliability, low ripple & noise, low standby power consumption;
- I Long-life low-impedance electrolytic capacitors;
- I Gild pin, customized available.

Ultra wide input voltage range switched-mode power supply for electric-meter

The LO10-24B13K is designed for electric-meter application and operates over a very wide input voltage range: 30-280VAC / 40-400VDC, 13V single output. The isolation voltage is 4000VAC between input and output. The product meets IEC/EN61000 "Burst (4kV)", "Surge (2kV/4kV)" and "EN55022 Class B Conduction/ Radiation". So it supplies with the requirement of high isolation voltage and rigorous EMC.

INPUT SPECIFICATIONS

Input Voltage Range	30~280Vac or 30~400Vdc
Input frequency(Hz)	47~440
Input Current(A)	0.1 Typ @Vin=220Vac, Io=100%
Standby power consumption (W)	0.2 Typ @Vin=220Vac, Io=0

OUTPUT SPECIFICATIONS

Nominal output voltage(V)	13
Output current(A)	0.5
Voltage set accuracy	±1 %
Input variation	±0.5%
Load variation (10% to 100%)	±1%
Ripple & ripple(mVp-p) (0~+60℃)	130 Max
Output Short circuit protection	Continuous, and auto recovery
Output over voltage protection	(Feedback-clamp) Voltage limited≤15

COMMON SPECIFICATIONS

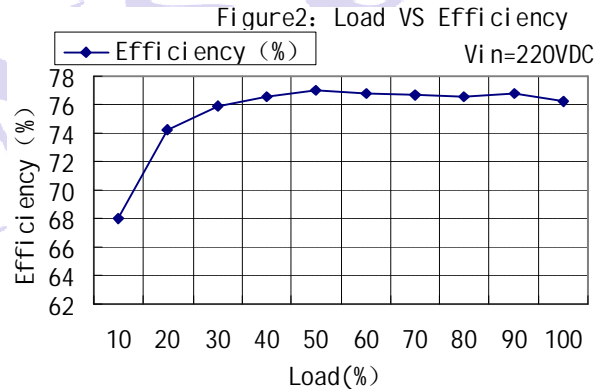
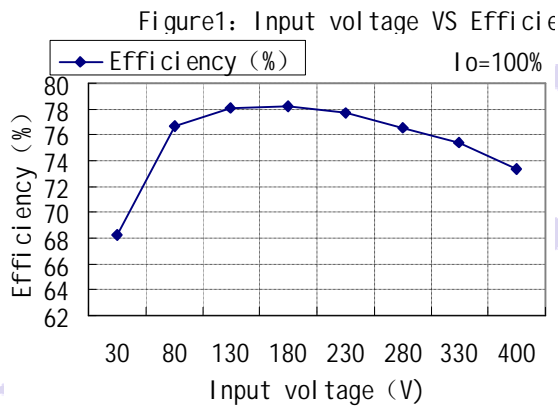
Efficiency (%)	75Typ @Vin=220Vac, Io=100%
Leakage current(Ma)	0.3Typ @Vin=220Vac
Temperature drift(%/℃)	±0.02Max
Start up time(ms)	50(Typ) @Vin=220Vac, Io=100%
Hold-up time(ms)	200 (Typ) @Vin=220Vac, Io=100%
Maximum capacitive load(μF)	470 @Vin=220Vac, Io=100%

COMMON SPECIFICATIONS

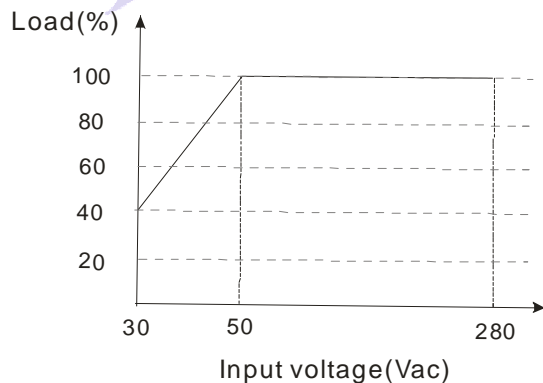
Isolation voltage	Input/Output	4000VAC 1 min; insulation resistance>50MΩ@500VDC
MI/RFI conducted		EN55022, level B
EMC Compliance	Electrical fast transients/bursts on mains line	IEC/EN 61000-4-4 level 4 4kV
	Surge	IEC/EN 61000-4-5 level 4 2kV/4kV
Environment	Operating tem., Humidity & altitude	-25~+70℃,20-90%RH, 3000m(1000 feet)Max
	Storage tem., Humidity & altitude	-25~+85℃,20-90%RH,9000m(3000 feet)Max
	Vibration	10~55Hz,19.6m/s ² (2G),3min; X,Y,Z axis 60min
	Shock	196.1m/s ² (2G),11ms; X,Y,Z axis 1 time
Others	Switching frequency	60kHz Typ
	Cooling	Free air convection
	Weight	55g
	Outline size	80mm(L)×40mm(W)×30mm(H)

Remarks:
 1. Unless otherwise specified, all specifications above are measured at rated input voltage and rated output load, TA=25℃, humidity < 75%;
 2. Ripple and Noise were measured by the method of parallel lines. See detailed operation instructions at Testing of Power Converter section.

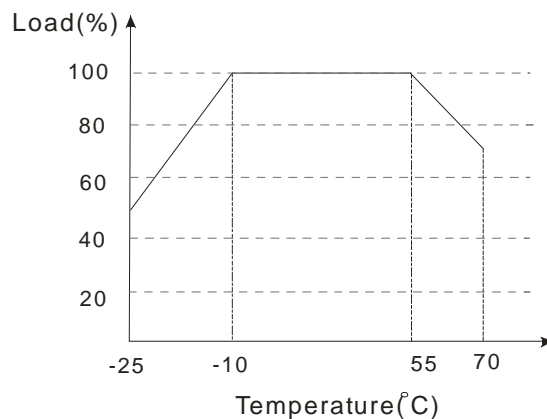
CHARACTERISTIC CURVE



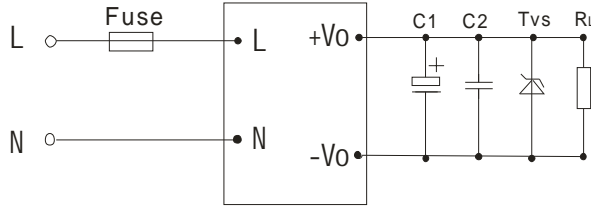
INPUT VOLTAGE VS LOAD



TEMPERATURE VS LOAD



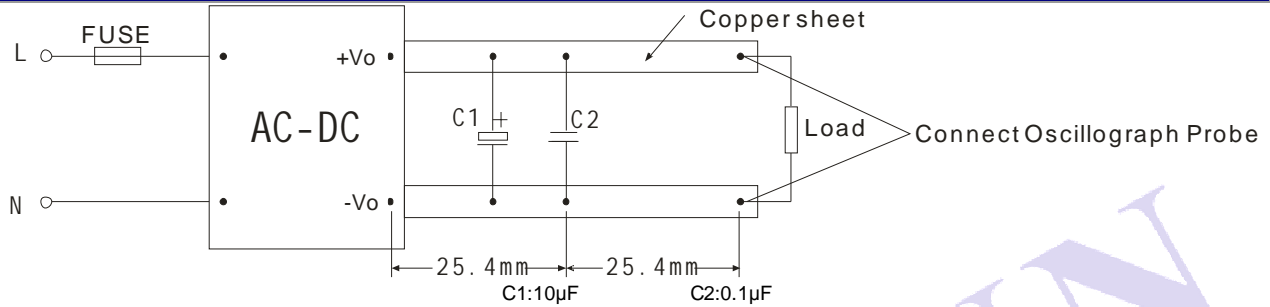
TYPICAL APPLICATIONS



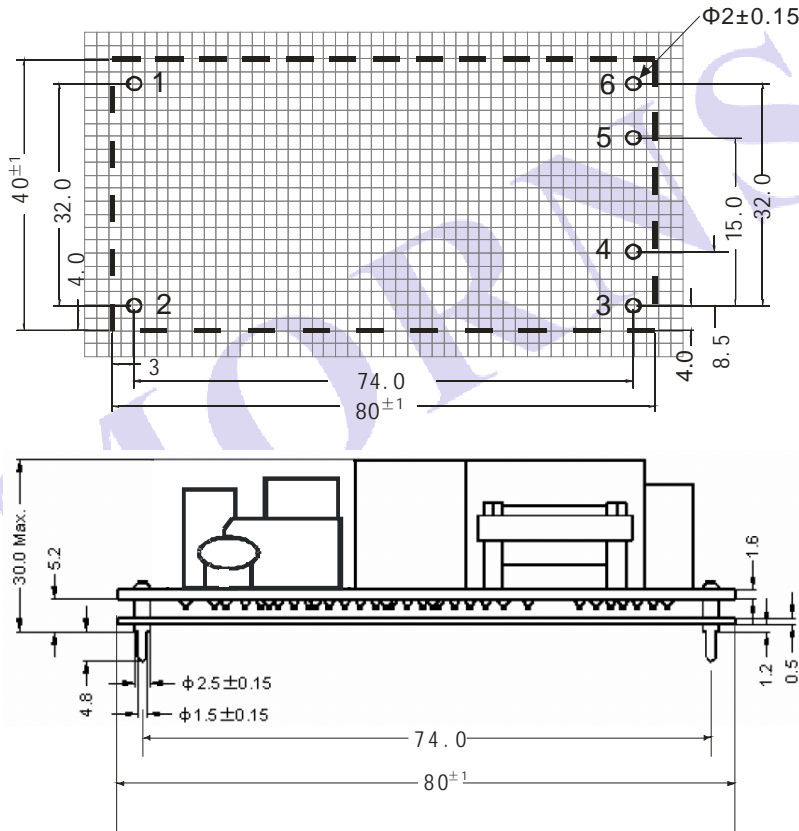
Remark:

Output filtering capacitor C1 is electrolytic capacitors, It is recommended to use high frequency and low impedance electrolytic capacitors (value:100 μ F/25V).C2 is ceramic capacitor and it is used to filter high frequency noise(Recommend value:0.1 μ F/50V). TVS is recommended component to protect post-circuits (when converter fails).

PARALLEL LINES MEASURE



OUTLINE AND DIMENSIONS



NOTE:

1. Unit: mm
2. The other tolerances are ± 0.30 mm ,except especial explanation;
3. FR-4,1.6mm thick double sided glass fiber PCB;
4. 0.5mm black MYLAR insulating sheet material.

Pin	Name	Function
1	ACL	AC voltage line wire(L wire) or positive input voltage(DC)
2	ACN	AC voltage neutral wire(N wire) or negative input voltage(DC)
3	NC	NC
4	No Pin	No pin
5	OUT-	The second output voltage negative(-)
6	OUT+	The first output voltage positive(+)

PACKAGE DIAGRAM



Inside package box dimensions: L*W*H=365*350*105mm

Package quantity: 24PCS

Outside package box dimensions: L*W*H=390*360*245mm

Package quantity: 48PCS

MORNSUN Science & Technology Co.,Ltd.

Address: No. 5, Kehui St. 1, Kehui development center, Science Ave., Guangzhou Science City, Luogang district, Guangzhou,P.R.China.

Tel: 86-20-28203030

Fax:86-20-28203068

[Http://www.mornsun-power.com](http://www.mornsun-power.com)

MORNSUN