

SLD01 & SLD02 SERIES

SCHMID-M

1W/2W, ULTRA SMALL SIZE AC-DC CONVERTER

SLD01 & SLD02 Series are the compact size power converter offered by SCHMID-M. It features compact size, 3000VAC safer isolation. It offers good EMC performance, meets IEC61000, UL60950 and IEC60950 standards, and widely used in industrial, electricity, instruments and civil applications. If want to used in electricity and other higher requirement to EMC applications, must connect typical application.

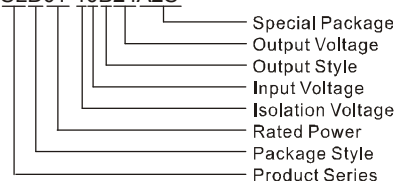
PRODUCT FEATURES

1. Wide Input voltage Range: 85~305VAC/120~430VDC
2. AC and DC all in one (input from the same terminal)
3. Small size, low Ripple and Noise
4. EMC meets EN55022、EN55024
5. Low Standby Power, high efficiency, green power
6. Over output current protection, short circuit protection
7. Meet IEC61000, UL60950 and IEC60950 standards
8. 1 years warranty
9. Mounting: PCB mounting, Chassis mounting with Screw Terminals, DIN-Rail mounting



PART NUMBER SYSTEM

SLD01-10B24A2S



SELECTION GUIDE

Approval	Model	Package	Power	Output (Vo/Io)	Max. Capacitive Load(μF)	Ripple and Noise (Typ)	Efficiency (% Typ)	Standby Power(Typ)
UL/CE	SLD01-10B03	33.7x22.2x18mm	1W	3.3V/300mA	4000	100mV	63	0.1W
	SLD01-10B05			5V/200mA	4000		68	
	SLD01-10B09			9V/111mA	2200		72	
	SLD01-10B12			12V/83mA	2200		73	
	SLD01-10B15			15V/67mA	1000		74	
	SLD01-10B24			24V/42mA	680		75	
	SLD02-10B03		2W	3.3V/600mA	4000		65	
	SLD02-10B05			5V/400mA	4000		70	
	SLD02-10B09			9V/222mA	2200		72	
	SLD02-10B12			12V/167mA	2200		76	
	SLD02-10B15			15V/133mA	1000		76	
	SLD02-10B24			24V/83mA	680		78	

INPUT SPECIFICATIONS

Input Voltage Range		85~305VAC, 120~430VDC
Input Frequency		47~63Hz
Input Current	SLD01 series SLD02 series	110VAC 30mA, typ 44mA, typ
Inrush Current		110VAC 5A, typ
Leakage Current		0.15mA (max)

OUTPUT SPECIFICATIONS

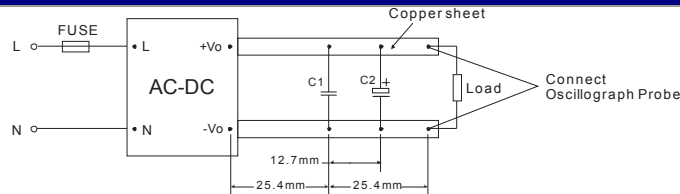
Output Voltage Accuracy(Max.)		±5% (max)	3.3V output ±6% (max)
Line Voltage Regulation(Max.)		±2% (max)	
Load Variation (10% to 100%)		±5% (max)	
Ripple & Noise(p-p)	20MHz Bandwidth	100mV(typ)	200mV(max)
Short Circuit Protection		Continuous, and auto resume	
Over Current Protection		≥110% I _o can auto resume	

COMMON SPECIFICATIONS

Temperature Ranges	Operating	-25°C~+70°C(55~70°Cderating)			
	Power derating (above 55°C)	3.3% / □			
	Storage	-40°C~+85°C			
Humidity	Operating Humidity	30~90%RH			
	Storage Humidity	20~95%RH			
Switching Frequency		100KHz(max)			
I/O-isolation Voltage (Input to Output)		3000VAC/1Min			
EMC	EMI	CE	CISPR22/EN55022, CLASS B		
		RE	CISPR22/EN55022, CLASS B		
	EMS	ESD	IEC/EN61000-4-2	Contact ±4KV /Air ±8KV	perf. Criteria B
		RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
		EFT*	IEC/EN61000-4-4	±2KV	perf. Criteria B
		Surge Immunity *	IEC/EN61000-4-5	±1KV/±2KV	perf. Criteria B
		CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
		PFM	IEC/EN61000-4-8	10A/m	perf. Criteria A
		Voltage dips, short and interruptions immunity	IEC/EN61000-4-11	0%-70%	perf. Criteria B
Safety approvals		UL60950/EN60950			
Safety Class		CLASS II			
Case Material		UL94V-0			
Install		PCB mounting, Chassis mounting with Screw Terminals, DIN-Rail mounting			
Cooling		Free air convection			
MTBF		>300,000h @25°C			
Weight		20g(PCB mounting) 40g(A2S Chassis mounting with Screw Terminals) 60g(A4S DIN-Rail mounting)			

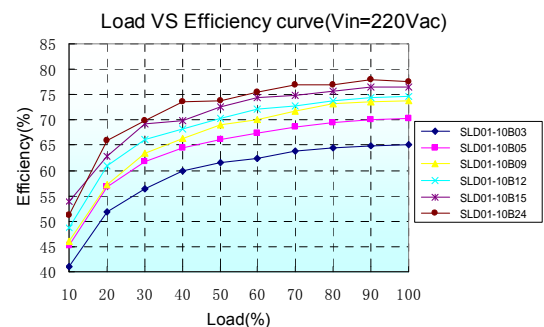
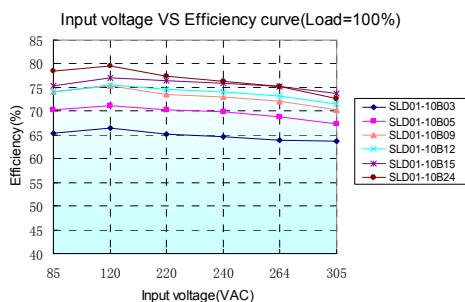
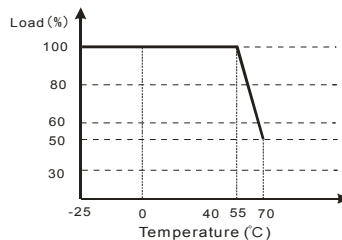
Note: 1.*External circuit is required to models at inrush and electrical fast transients experiment, refer to typical application.
2. Models listed with strike-through text have been officially discontinued.
3. Unless otherwise specified, all specifications above are measured at rated input voltage and rated output load, TA=25°C, humidity < 75%.
4. All specifications stated in this datasheet are subject to the above listed models only. For specifications of non-standard models, please contact our technical support team.

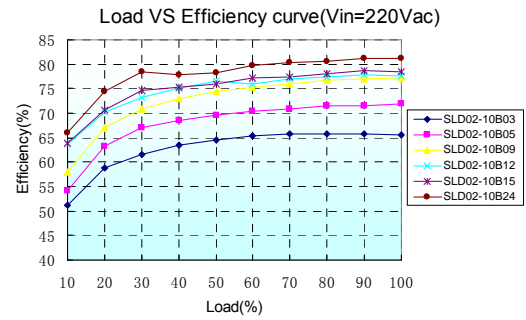
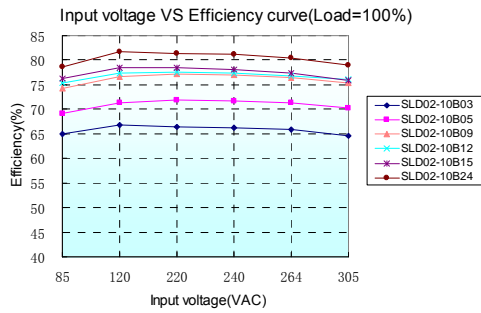
PARALLEL LINES MEASURE



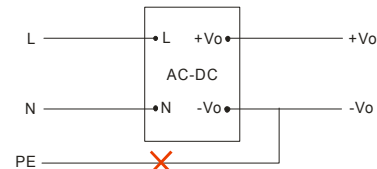
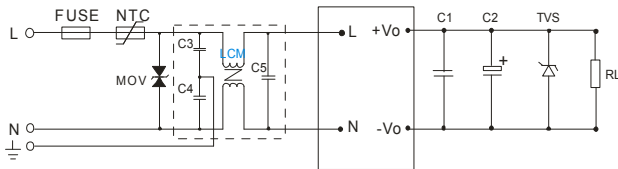
Note: C1: 1μF (ceramic capacitor) C2: 10μF (electrolytic capacitor)

PRODUCT TYPICAL CURVE





TYPICAL APPLICATIONS



Note: This application is not supported for this series.

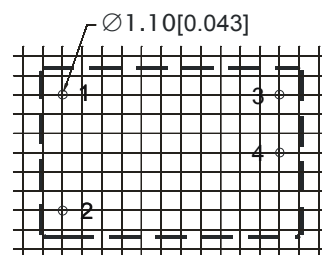
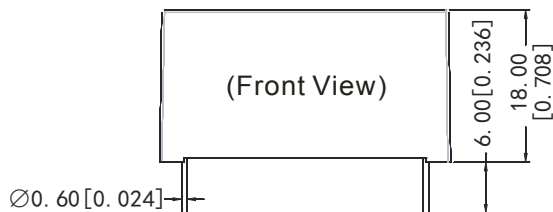
EXTERNAL CAPACITORS TYPICAL VALUE (Unit: μF)

Model	C1	C2	TVS
SLD01/02-10B03	1 $\mu\text{F}/50\text{V}$	220	SMBJ7.0A
SLD01/02-10B05	1 $\mu\text{F}/50\text{V}$	220	SMBJ7.0A
SLD01/02-10B09	1 $\mu\text{F}/50\text{V}$	120	SMBJ12A
SLD01/02-10B12	1 $\mu\text{F}/50\text{V}$	120	SMBJ20A
SLD01/02-10B15	1 $\mu\text{F}/50\text{V}$	120	SMBJ20A
SLD01/02-10B24	1 $\mu\text{F}/50\text{V}$	68	SMBJ30A

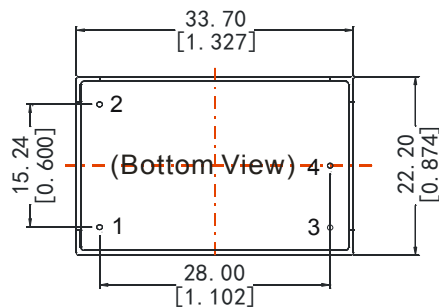
Note:

- C1 is ceramic capacitor, it is used to filter high frequency noise. C2 is electrolytic capacitor, It is recommended to use high frequency and low impedance electrolytic capacitors. For capacitance and current of capacitor please refer to manufacture's datasheet. Voltage derating of capacitor should be 80% or above. TVS is a recommended component to protect post-circuits (if converter fails).
- It must be connected to FUSE, the recommended parameter is 0.5A/250V slow blow. NTC is recommended to use 5D-9.
- MOV: Varistor, model: 561KD14, it is used to protect the device under surge.
C3,C4:Y capacitor, recommended parameter 2200pF/400V; C5:X capacitor, recommended parameter 0.1-0.33 $\mu\text{F}/300\text{V}$;
LCM: common model choke, recommended inductance is about 15mH-30 mH, can use SCHMID-M's FL2D-z5-103.

OUTLINE DIMENSIONS, RECOMMENDED FOOTPRINT & PACKAGING



Note: grid 2.54*2.54mm.

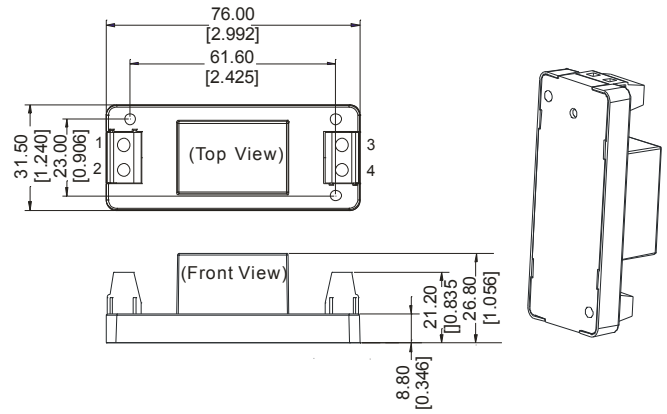


Note:
Unit: mm[inch]
Pin diameter tolerance: $\pm 0.10\text{mm}$ [$\pm 0.004\text{inch}$]
General tolerance: $\pm 0.50\text{mm}$ [$\pm 0.020\text{inch}$]

FOOTPRINT DETAILS	
Pin	Function
1	N
2	L
3	-Vo
4	+Vo

SLD01/02XXA2S CHASSIS MOUNTING WITH SCREW TERMINALS

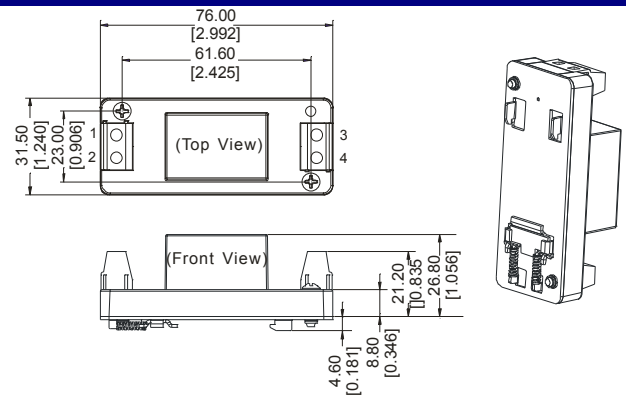
Footprint Details				
Pin	1	2	3	4
Function	AC(N)	AC(L)	+Vo	-Vo



Note:
Unit: mm[inch]
General tolerances: $\pm 0.50\text{mm}[\pm 0.020\text{inch}]$

SLD01/02XXA4S DIN-RAIL MOUNTING

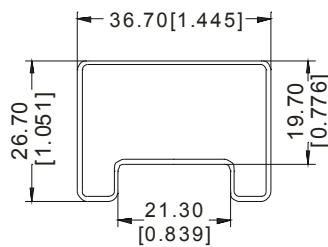
Footprint Details				
Pin	1	2	3	4
Function	AC(N)	AC(L)	+Vo	-Vo



Note:
Unit: mm[inch]
General tolerances: $\pm 0.50\text{mm}[\pm 0.020\text{inch}]$

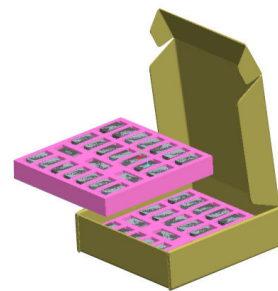
PACKAGE DIAGRAM

PCB mounting Series



Note:
Unit :mm[inch]
General tolerances: $\pm 0.50\text{mm}[\pm 0.020\text{inch}]$
L=530mm[20.866inch] Tube Quantity: 22pcs
L=220mm[8.661inch] Tube Quantity: 8pcs
Short tube inner packaging dimensions: L*W*H=255*170*80mm;
Short tube outer packaging dimensions(with six inner packaging boxes):
L*W*H=375*280*270mm;
Long tube inner packaging dimensions: L*W*H=580*200*100mm;
Long tube outer packaging dimensions(with two inner packaging boxes) :
L*W*H=600*215*220mm;
Long tube outer packaging dimensions(with three inner packaging boxes) :
L*W*H=600*215*325mm.

Special Package Series (A2S/A4S)



Inner packaging box dimensions: L*W*H=365*350*105mm
Packaging quantity: 48 PCS
Outer packaging box dimensions: L*W*H=390*360*245mm
Packaging quantity: 96 PCS